Case study:

Colombia

Project:
Regulatory Frameworks and The Role Of State–Owned Oil & Gas Companies

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The consultant Diego Otero Prada authored this document.

This project was under OLADE coordination: Byron Chiliquinga, Planning and Projects Director (e).

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REGULATORY FRAMEWORKS AND THE ROLE OF STATE–OWNED OIL & GAS COMPANIES

COLOMBIA CASE STUDY

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1. Goals of the Regulatory Framework

The new regulatory framework of the Colombian hydrocarbons sector originates in the 1991 Political Constitution, several of whose articles ensure private and public sector equality in providing goods and service.

As a result of the Constitution and the environment of the nineties' Washington Consensus, Colombia approved Public Utilities Law No. 143, the *Agencia Nacional de Hidrocarburos* was created in 2003, and the New Oil Contract was institutionalized in 2004, giving birth to new regulations for the natural gas and oil sub–sectors.

These norms reinstated competition between the public and private sectors, and introduced competitiveness and efficiency as key elements.

The new norms imply a limitation on ECOPETROL's monopoly role in prospecting, producing and operating oil and gas fields. Since the creation of the *Agencia Nacional de Hidrocarburos* it is no longer necessary for the private sector to partner with State–owned companies for exploration and production. This is aimed to make ECOPETROL more efficient and introduce competition, by requiring it to participate in competitive bidding contests along with the private sector to be awarded exploration zones.

As for natural gas, the *Comisión de Regulación de Energía y Gas* (CREG), created in 1994, has passed a series of measures for transportation and commercialization of natural gas with regard to tariff design, quality, competition, and restriction on monopolistic practices that apply equally to private, mixed and public enterprises.

2. Role of State–owned Companies

The Colombian system is characterized by the presence of State–owned, public and mixed enterprises, although the trend has been evolving towards privatization.

In the hydrocarbons sector, State–owned enterprises include the *Empresa Colombiana de Petróleos* (ECOPETROL) and *Transportadora de Gas del Interior* (TGI) for natural gas transportation, previously the *Empresa Colombiana de Gas* (ECOGAS).

The reforms introduced in the oil & gas sector are aimed to attract multi–national private capital. ECOPETROL, as a state–owned company, is still subject to National Government control. Thus, its budget is approved by the Central Government through the Ministry of the Treasury and Public Credit and the *Departamento Nacional de Planeación*. The Comptroller General of the Republic oversees resource management after the fact. The company is obliged to report to the national Congress.

3. Types of Companies

The *Empresa Colombiana de Petróleos* (ECOPETROL) was created in 1951 as an entirely State–owned, autonomous agency with legal status, from the assets of the former Tropical Oil Company that managed the Mares Concession.

Under Decree Law No. 1760 of June 26, 2003, ECOPETROL became a public stock company linked to the Ministry of Mines and Energy. This decision was necessary in order to bring in private capital.

Law No. 1118 of December 27, 1997, authorized ECOPETROL to issue shares for 20 %. Article 2 determines that when this issue becomes effective, the enterprise will become a mixed public–private commercial company, linked to the Ministry of Mines and Energy.

As per Article 6, all required legal procedures, contracts and shares will be governed by private law, and the labor regime for its public servants will be the same as for private workers.

Therefore, through Law No. 1760 ECOPETROL gains flexibility in its contracting procedures and labor regime, but having a majority public capital, remains under the oversight of the National Government. This situation favors ECOPETROL very much in comparison to what occurred before this law was issued.

Transportadora de Gas del Interior (TGI), upon purchasing the *Empresa de Energía de Bogotá* from ECOGAS in December 2006, became a stock company and a public service provider on February 19, 2007. This company is subject to the regulations and control of the *Comisión de Regulación de Energía y Gas* and the *Superintendencia de Servicios Públicos Domiciliarios* (SSPD), and has almost 100 % public capital.

4. Impact of the Regulatory Framework

The former regulatory framework limited ECOPETROL, but the greatest restriction came from National Government policies of the past twenty years that dismantled it, taking away natural gas transportation and commercialization, fuel distribution, construction of new refineries and gas pipelines, and making its earnings for exploration subject to control.

In contrast, the environment for private companies has improved in two significant ways. First, there is a new distribution of royalties with the law approved in 2002, that replaced the 20 % royalty with a system of variable royalties from 8 % to 25 %, as the multinational companies had requested. Secondly, the New Oil Contract of 2004 has eliminated the obligation to partner with ECOPETROL in order to explore and operate oil and natural gas fields.

With the beginning of ECOPETROL's privatization, a process that concluded in October 2007 when 5 % of its shares were sold and it became a mixed economy enterprise, Law No. 1760 entered into effect and the company acquired a legal structure that afforded it greater flexibility to operate and compete with the international private sector.

For *Transportadora de Gas del Interior*, there has been no restriction on its natural gas transportation business, except for limitations applying to all transportation companies entering other areas.

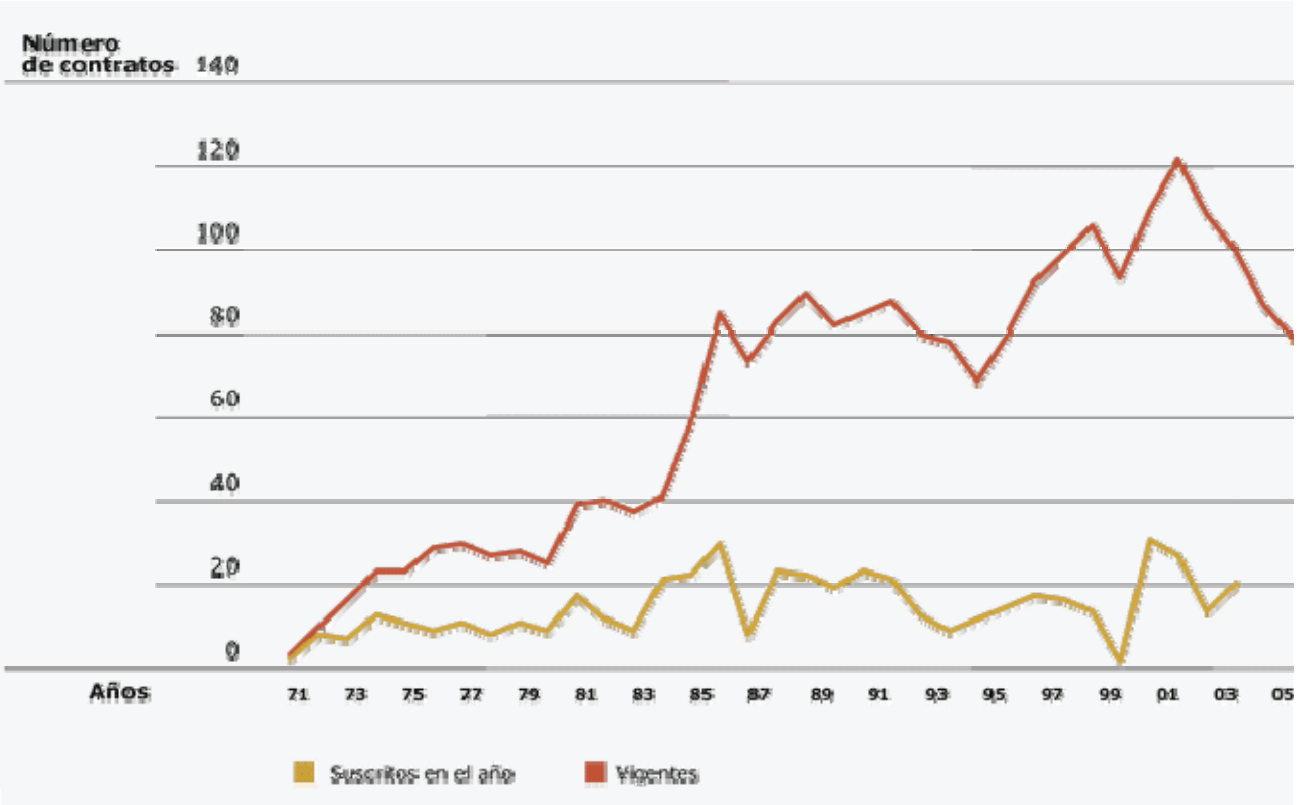
Since the reforms were introduced very recently, there is insufficient empirical evidence to show whether they have had a positive effect on attracting exploration and production investments from multinationals and ECOPETROL.

In three indicators: exploration investments, contracts signed and exploratory wells, there is a small positive upturn from 2002 onward. Investments by partnered enterprises went from US$ 85.6 million in 2001 to US$ 167.1 million in 2005, and those of ECOPETROL went from US$ 26 million to US$ 96.04 million respectively (Table 1).

The new contracts signed dropped from 28 in 2001 to 21 in 2004, increasing in 2005 and 2006 to 31 and 58, respectively (Figure 1).

Exploratory wells grew from 13 in 2001 to 28 in 2004, dropping to 23 in 2005. Outstanding is the increase in those belonging to ECOPETROL, from 1 to 3 between 2001 and 2004, and to 8 in 2005.

Figure 1
Exploration Contract History



Source: ECOPETROL Statistical Reports

Number of contracts	
Years	
Signed each year	**Ongoing**

Table 1

Exploration Investments			
(millions of dollars)			
Year	**Partners**	**ECOPETROL**	**Total**
2000	85.6	26.0	11.6
2001	262.4	19.9	282.3
2002	144.6	62.7	207.6
2003	136.7	52.9	189.5
2004	127.0	81.9	218.9
2005	167.1	96.4	263.1

Source: ECOPETROL

5. Lessons Learned

In order for a State–owned company to operate efficiently, it should receive all facilities it needs to work, as if it were a private company, except for natural limitations on the use of oil profits, which should be subject to a clear regime of taxes and appropriation of resources by the government, depending on oil prices.

The Colombian experience shows that it is an erroneous policy to fuse the oil & gas sector with the power sector, and the integrated enterprises are divided into different companies for each activity.

In Colombia, the electric sector policy was applied to ECOPETROL, which required disintegrating it, as the idea was to create different companies for production, transportation, refining, and commercialization. The actions taken since 1990, primarily the creation of ECOGAS with ECOPETROL's natural gas transportation network, sale of shares in the fuel distribution company TERPEL, and sale of shares in the natural gas distribution company, have meant that as of October 2007 ECOPETROL has concentrated on oil and gas production, oil and derivatives transportation, and the operation of refinery with major updating needs. It is a company that practically does no exploration, with a maximum of five wells per year.

Oil exploration suffered when ECOPETROL's resources were limited for this activity with the argument that it was a very risky operation that was best left to private companies. The consequence was a decrease in exploration and a drop in reserves, with the danger of losing sufficiency.

6. Recommendations

The main recommendation is to give ECOPETROL all the tools it needs and remove the restrictions that keep it from becoming a true energy company. Accordingly, we recommend removing all restrictions on investments in fuel and natural gas transportation, refining and distribution. Also, it should be given greater autonomy to define its budget, meaning that the central government should stop seeing ECOPETROL as its petty cash box.

The imperious need to increase oil reserves requires that ECOPETROL initiate an aggressive exploration plan, regardless of what private companies do, to avoid repeating what has occurred since the nineties, when reserves dropped from over two billion barrels to 1.5 billion by year–end 2006 due to a lack of exploration by the State–owned company, waiting for multinational investments in exploration that never arrived.

REGULATORY FRAMEWORKS AND THE ROLE OF STATE–OWNED OIL & GAS COMPANIES

1. INTRODUCTION

The regulatory framework and the role of State–owned hydrocarbons enterprises has undergone important changes since the new Constitution of 1991 was approved and since the administration of the liberal president César Gaviria from 1990 to 1994, which inaugurated Colombia's application of the thinking behind the Washington Consensus.

The main changes in the regulatory framework have to do with the separation of activities; differentiation between ownership, regulation and control; creation of the *Agencia Nacional de Hidrocarburos* in 2003 and modification in 2004 of the oil and gas exploration and exploitation partnership contracts for modern concession type contracts; the 1994 enactment of Public Utilities Law No. 142 that created the *Comisión de Regulación de Energía y Gas* (CREG) and the *Superintendencia de Servicios Públicos Domiciliarios* (SSPD); privatization of the natural gas sub–sector and retail distribution of oil derivatives.

With regard to the role of State–owned enterprises, changes took place in ECOPETROL that decreased its role in natural gas, refining and retail distribution of products, and created the Colombian transportation enterprise ECOGAS in 1997 based on ECOPETROL's gas transportation assets, converted into *Transportadora de Gas del Interior* (TGI) in 2006 when it was purchased by *Empresa de Energía de Bogotá* owned by the municipality of Bogota.

The changes made in 2003 with the creation of the *Agencia Nacional de Hidrocarburos* and the New Oil Contract in 2004 eliminated the rights that ECOPETROL had to explore in Colombia alone or with partner companies, and since that year it has had to compete with private enterprises.

ECOPETROL has had to work within a regulatory framework that kept it from acting effectively, for several reasons: public contracting statutes that do not promote agility, and National Government restrictions through controlling its operations and investment budget, which have not left it the resources needed to prospect for oil, operate efficiently and seek business outside of the country.

2. SIGNIFICANT BACKGROUND

Five significant facts have occurred in the past fifteen years that are influencing and will continue to influence hydrocarbons sub–sector development, as mentioned below.

1) In 1994, Laws No. 141 and 142 on electricity and public utilities were enacted with the idea of separating the regulatory, control and exploitation functions, which before were merged under a single governmental entity, and to clearly establish the rights of private

participation in public utility activities. This was seen in the hydrocarbons sector through the separation of gas production from gas transportation and commercialization, and in the dismantling of ECOPETROL by taking away its derivatives trade, its natural gas transportation and distribution, and forbidding it to investment in refineries.

In the same year, Royalties Law No. 141 of 1994 was passed, defining the norms for royalties on oil, gas and mining resources, and national, departmental and municipal rights over them, as well as the means for inspection.

2) With the philosophy of separating activities for the electricity sub–sector (generation, transmission, distribution and commercialization) the same policy started to be applied to the hydrocarbons sub–sector for both natural gas and oil and derivatives, with negative effects for ECOPETROL.

Thus, in the natural gas sub–sector, transportation activities were assigned in 1997 to a new entity called *Empresa Colombiana de Gas* (ECOGAS) and the shares in the distribution company *Gas Natural de Bogotá* were sold to *Gas Natural de España*.

3) As for oil, the retail distribution of the TERPEL enterprise formed by ECOPETROL was offered up for sale to private investors. The decision was made that the latter, as a State policy but not because it was forbidden by Law, should no longer intervene in building and operating new refineries. As for transportation via oil pipelines, a policy was made for them to be built by the private sector. Likewise, the entire business of natural gas transportation and commercialization was taken away from ECOPETROL.

4) A very important change was the creation in 2003 of the *Agencia Nacional de Hidrocarburos* and the establishment in 2004 of the new contracting model for exploration and production, returning to concession contracts and eliminating the prerogatives of ECOPETROL, since from that year forward this State enterprise has had to compete freely with private investors for exploitation and production zones.

5) The National Government's 2006 decision to sell 20 % of its shares in ECOPETROL to the public, marked the beginning of this entity's privatization, and the process of selling 10 % of its shares began in September 2007.

The sale of 20 % of all shares in ECOPETROL made it a mixed company and will enable it to act as a private enterprise, eliminating many of the current restrictions on domestic and foreign operations.

3. GENERAL SECTORAL POLICY

The Ministry of Mines and Energy governs the energy and mines sector in terms of making general policies, directing and controlling the State–owned enterprises under it, participating in and directing the *Comisión de Regulación de Energía y Gas* (CREG), the

Agencia Nacional de Hidrocarburos (ANH), the *Empresa Colombiana de Petróleos* (ECOPETROL), and other entities of the sector, and is in charge of establishing and following up on the technical standards of the hydrocarbons sector for both the private and public sector.

The energy and mines policy is defined and oriented by the Ministry of Mines and Energy, created in 1940 as the Ministry of Mines and Petroleum, eliminating the respective functions that the Ministry of the National Economy once had.

The administrative reform of 1968 gave it the management of primary energy sources, but matters relating to energy generation, transmission and commercialization remained under the Ministry of Public Works.

Through Decree No. 636 of April 10, 1974 it took on the name of Ministry of Mines and Energy, and received functions relating to the power sector.

In order to put the Ministry in consonance with the 1991 Constitution, in the light of the new mandates and the role that the development plan demanded of the ministries, by Decree No. 2119 of December 29, 1992, some aspects of the Ministry of Mines and Energy were reorganized and changed.

In 1997 the Under–secretariat of Hydrocarbons was created and other provisions were issued.

In 1999, 2001, 2003 and 2004 changes were introduced that eliminated attached entities, reorganized some and created others, and a single Under–secretariat was established to be in charge of all energy and mines activities.

The main functions of the Ministry regarding the hydrocarbons sub–sector, as per the third article of Decree No. 70 of January 17, 2001, are the following:

1. Adopt the national policy for exploration, exploitation, transportation, refining, processing, beneficiation, transformation, and distribution of minerals and hydrocarbons.

2. Ensure that all activities developed by enterprises of the mining and energy sector guarantee sustainable natural resource development.

3. Adopt the development plans of the country's mining and energy sector in accordance with the general development plans and with the macro–economic policies of the National Government. In exercising this function it should identify the needs of the mining and energy sector and the general plans should be oriented to meet this demand. To this effect, the Ministry may advance research related to the activities of the sector, whether directly or in coordination with other public or private agencies.

4. Advance the regulations and enforce the constitutional, legal and regulatory provisions relating to exploration, exploitation, transportation, refining, distribution, processing,

beneficiation, commercialization, and export of non–renewable natural resources, and the technical standards relating to electric power and fuel gas public utilities.

5. Ensure that the activities of commercialization, construction and operation of gas pipelines are carried out in the country through official enterprises, whether private or mixed, based on the prior guidance of the *Consejo Nacional de Política Económica y Social* (CONPES).

6. Organize public bidding contests, whether directly or through contracts with third parties, in which any enterprise, whether public or private, domestic or foreign, can participate, when organizing the transportation, distribution and supply of State–owned hydrocarbons that may be necessary to provide the public utilities regulated by Law No. 142 of 1994 or any rulings amending or adding to it, provided that the Nation deems it necessary.

4. LEGAL FRAMEWORK OF THE HYDROCARBONS SECTOR

4.1. Political Constitution of Colombia

The 1991 Constitution is clear as to private property rights to compete under equal conditions with the public sector, accede to oil and gas exploitation, participate in public bidding contests, whether through Colombian or international private enterprises, and to be subject to the same norms with no discrimination relative to the public sector. The Constitution gives private sector equal rights vis–à–vis the public sector.

En economic matters, the 1991 Constitution follows fairly orthodox lines in terms of the roles of the private and public sectors in the economy.

The Political Constitution that is in effect in Colombia includes the original text that was approved by the Constitutional Assembly in 1991 plus the laws that have amended it since then. It is the legal framework within which all sectors operate.

The articles having to do with hydrocarbons are the following:

Article 8. It is obligation of the State and of all persons to protect the cultural and natural wealth of the Nation.

Article 58. It protects private property rights and all other rights acquired under the civil laws, which may not be reversed or violated by subsequent laws. Property is a social construct that implies obligations. As such, it has an inherently ecological function. The State will protect and promote collective, mutual forms of property holding.

Article 60. The State will promote access to property in keeping with the law.

Article 79. All persons have right to enjoy a healthy environment. It is a duty of the State to protect the diversity and integrity of the environment, conserve areas of special ecological importance and promote education to achieve these ends.

Article 80. The State will plan natural resource management and use to ensure sustainable development, conservation, restoration or substitution. It must also prevent and control factors that deteriorate the environment, impose legal sanctions and demand reparation of the damages caused. Likewise, it will cooperate with other nations to protect ecosystems located in border zones.

Article 332. The State is the owner of the subsoil and of all non–renewable natural resources, without prejudice to the rights acquired and perfected in accordance with pre–existing laws.

Article 333. Private economic activities and initiatives are free, within the limits of the common weal. No–one may demand prior permits or requirements to exercise this right when not authorized by law. Free economic competition is a right of all that presupposes responsibilities. Businesses, as the basis for development, have a social function that implies obligations. The State, by mandate of the law, will prevent all obstruction or restriction of the economic freedoms and will avoid or control any abuse that persons or enterprises may make of their dominant position on the domestic market. The law will delimit the scope of the economic freedom when social interests, the environment and the cultural heritage of the Nation so require.

Article 334. The State will be in charge of the general economic direction. It will intervene, by mandate of the law, in natural resource exploitation, land use, production, distribution, utilization, and consumption of goods, and public and private services, in order to rationalize the economy, enhance the inhabitants' quality of life, equitably distribute opportunities and the benefits of development, and preserve a healthy environment.

Article 360. The law will determine the conditions for exploiting non–renewable natural resources and the rights that territorial entities have over them. The exploitation of non–renewable natural resources will devolve upon the State, an economic service against royalties, without prejudice to any other right or compensation being agreed to. The departments and municipalities within whose territory non–renewable natural resources are exploited, as well as sea and river ports through which said resources or the products deriving from same are transported, will be entitled to a share in any royalties and compensations.

Article 361. With any revenues from royalties that are not allocated to departments and municipalities, a National Royalties Fund will be created, whose resources will be allocated to territorial entities in the terms stated by law. These funds will apply to the promotion of mining, environmental preservation, and to finance regional investment projects defined as priority in the development plans of the respective territorial entities

Article 365. Public utilities are inherent in the social purpose of the State. It is the State's duty to ensure their efficient provision to all inhabitants within the national borders.

Public utilities will be subject to the legal regime established by law, may be provided by the State, directly or indirectly, by organized communities, or by individuals. In any case, the State will retain the regulation, control and oversight of said services.

Article 367. The law will establish the competencies and responsibilities regarding providing public utilities, their coverage, quality and financing, and the tariff regime that will take into account criteria of solidarity and redistribution of revenues, in addition to costs.

4.2. Organic Hydrocarbons Law

The first complete statute on hydrocarbons is believed to be Law No. 1230 of 1919, which regulated concession contracts. From 1922 to 1927 several amendments to the Law of 1919 were approved, especially that of 1927, which eliminated concession contracts. American pressures resulted in the approval of Law No. 37 of 1931, which reestablished the concession system and regulated all things regarding oil. These concession contracts paid a royalty of 14.5 %.

Decree Law No. 3419 of November 1950 compiled all previous legislation and introduced additional changes.

The Law of 1931 and its regulatory decrees were compiled in 1953 in what is known since then as the Oil Code. This code, still in effect in 2007, has undergone many modifications. It refers to concessions, royalties, private ownership of hydrocarbons, transportation, refining, depletion of fields, and a variety of technical standards of different types for the sub–sector.

The main modifications introduced until 2007 are the following:

Law No. 10 of 1961 amended various articles of the Oil Code and introduced new regulations.

Law No. 20 of 1969 reiterated the State's right over the subsoil and se authorized ECOPETROL, by State delegation, to enter into exploration and production contracts.

In 1974, under the state of economic emergency declared that year, Decree Law No. 2310 was issued, modifying the first two articles of the code and replacing the concession contract system in effect until then with partnership contracts, operation contracts, service contracts and other types as different from concession contracts. Likewise, it authorized ECOPETROL to carry out exploration and production activities directly or through contracts with third parties.

This so–called standard partnership contract remained in effect without change until 1989. It basically consisted in ECOPETROL's partner exploring to its own account and risk, and

if it found oil in commercial amounts, the costs of exploration and development would be paid in equal parts and the production would be distributed in equal parts after discounting a royalty of 20 %. The foreign investor also paid the different taxes, both national (income and remittance of profits) and local (income and industrial / commercial property).

In 1987, 1989, 1994 and 1997, changes were introduced to make contracts more attractive to private investors, basically with ECOPETROL sharing in the initial exploration costs and different proposals to distribute the production after paying the 20 % royalty.

In 2002, Law 756 amended the royalties regime and established a variable royalties system of 5 % to 25 %, depending on the daily production averages, with the argument that small fields were not attractive enough, making it better to have low royalties.

Through the creation of the *Agencia Nacional de Hidrocarburos* (ANH) it received the responsibility to manage the Nation's resources and establish a new contractual mechanism for exploration and production.

I was also in April 2004 that a new contracting model was presented, characterized by a modern concession arrangement according to the government, where investor did not have to partner with ECOPETROL and took on all risks in exchange for receiving all production after royalties as per the system approved in 2002.

In this way, the Oil Code that is presently in effect in Colombia is the one that was approved in 1953 with the amendments introduced since that year.

The Oil Code includes the following chapters:

General Provisions
Surface Exploration
Exploration and Exploitation Contracts
Processing Proposals and Bidding Contests
Drilling Notices and Title Reviews
Royalties
Taxes on Privately–Owned Oil
Transportation
Refining and Distribution
Exemptions, Depletion and Amortization
Sanctions and Expiry of Contracts
Regulatory Provisions

Since the Code was issued in 1953 many changes have been made, making it difficult to read and interpret. the circumstances of the industry have also changed, which has lead many experts to suggest that a new Oil Code be issued.

Thus, Law No. 681 of 2001 gave third parties open access to the product pipeline transportation system owned by ECOPETROL, and Law No. 812 of 2003 regarding the

2003–2006 Development Plan defined the distribution chain for liquid oil derivative fuels as consisting of the refiner, the importer, the storage operator, the wholesale distributor, the retail distributor, the transporter, and the great consumer. This served as a basis to subsequently open this chain to third parties, in such wise that in 2007 any agent can intervene in these activities.

Again, there is no discrimination against the private sector or favoritism for any public enterprise.

4.3. Public Utilities Law No. 142

Law No. 142 of July 11, 1994 established the public utility regime from which arose the *Comisión de Regulación de Energía y Gas (CREG)* and the norms that govern the natural gas and LPG sub–sectors in terms of natural gas and LPG prices, natural gas and of LPG transportation and distribution, and technical matters relating to quality.

The articles that refer to the hydrocarbons sub–sector are the following:

Article 1. Scope of the Law: The law applies to public utilities, which includes aqueducts, sewage systems, sanitation systems, electric energy, fuel gas distribution, basic fixed switched public telephony and local mobile telephony for the rural sector.

Article 3. State Intervention Instruments: All decisions by authorities regarding public utilities should be based on the motives determined in this Law, and any motives invoked should be provable.

All service providers are subject, in all things that are not incompatible with the Constitution or with the Law, to all that this law provides for enterprises and their administrators and, especially, to commission regulations, the control, inspection and oversight of the *Superintendencia de Servicios Públicos Domiciliarios*, and contributions to both.

Article 4. Essential public utilities: All public utilities dealt with in this Law will be considered essential public utilities.

Article 5.– Municipal duties for public service provision: Municipalities have duties regarding public utilities, which they will exercise in the terms of the Law and of any regulations issued by the councils in accordance with same.

- To ensure that public utilities are efficiently provided to inhabitants through official public utility companies, whether private or mixed, or directly by the central administration of the respective municipalities in the cases foreseen.

Article 7.– Departmental duties for public service provision. The departments have duties relating to public service support and coordination functions, which they will exercise in the

terms of the law and of any regulations issued by the assemblies in accordance with same:

- To provide financial, technical and administrative support to the public utility companies that operate within the department, or to any municipalities that have taken on direct provision, and to enterprises organized with the participation of the Nation or of the departments to develop the functions within their jurisdiction with regard to public utilities.
- To organize systems for coordinating the entities providing public utilities and, where advisable for technical and economic reasons, to foster the organization of associations of municipalities for public service provision, or to enter into inter–administrative agreements for that purpose.

Article 8. – State duties for public service provision. The state has the following duties:

- To exclusively plan, allocate and manage the use of fuel gas whenever economically and technically possible, through official mixed or private enterprises.
- To ensure that the activities of generating power and interconnecting to national electricity networks, interconnecting to public telecommunications networks, marketing, building and operating gas pipelines and networks for other services that may arise for technological development and that require interconnection networks, are carried out in the country by official mixed or private enterprises.
- To provide financial, technical and administrative support for public utility companies or municipalities that take over direct provision.
- To ensure that those providing public utilities comply with the standards for the protection, conservation or, where required, recovery of natural or environmental resources that are used in the generation, production, transportation, and final provision of such services.

Article 17. Public utility companies are stock companies whose purpose is to provide the public utilities dealt with in this Law.

Article 24. – All the public service provision entities are subject to the tax regimes of the nation and of all territorial entities.

Article 32.– Private law regime for business actions. The creation and actions of public utility companies, as well as those required to manage and exercise the rights of persons partnered of them, will be governed solely by private law regulations.

This rule will even apply to the companies of which public entities are a part, regardless of the percentage of their contributions to the capital stock, or the nature of the actions or rights being exercised.

Authorization for a public entity to be part of a public utility company organized as a stock company, will be understood as empowering its legal representative, pursuant to the by–

laws of the entity, to exercise on behalf of the company all actions and rights inherent in them, and all acts that the law and the by–laws allow individual partners.

Article 39.– Special Contracts. For the purpose of public service management, entering into the following special contracts, among others, is authorized. Except for concession contracts, they will be governed by private law.

- Concession contracts for the use of natural or environmental resources. This includes the water concession contract signed by entities to facilitate its exploitation or enjoyment. When the competent authorities deem it necessary to implement a water or sanitation project of national interest, they may take the initiative to publicly invite public utility companies to award the respective concession. Water concessions will expire in three years of award if within that period sufficient investments have not been made to enable its economic exploitation.

- Professional stock administration contracts. Entered into by public entities with shares of stock in public utility companies, to manage or dispose of their shares, contributions or investments therein, with fiduciary societies, financial corporations, high–level financial cooperatives, or companies created for the purpose of managing public utility companies. The rates will be determined through a competitive bidding contest for contract award.

  The incompatibility and incapacity regime for officers signing the respective contract with such enterprises will apply to legal representatives and Board members of entities acting as trustees or agents to manage the stock of public utility companies.

- Contracts for official entities to transfer ownership or usufruct of assets allocated especially to provide public utilities, concessions or similar.

- Contracts by virtue of which two or more public utility entities or large suppliers or users regulate shared or interconnected access to assets that are indispensable to public utility provision, through payment of a reasonable fee or toll.

- Contracts to extend the provision of a service that in principle only benefits one person, by virtue of which the latter takes on the cost of the respective works and undertakes to pay the enterprise the amount defined for them, or undertakes to independently execute the works required for the project as approved by the enterprise.

Article 45. – Governing control principles. It is the job of the Regulating Commissions, taking into account the development of each public service and the resources available in each locality, to promote and regulate the balance of control mechanisms, and it is the job of the Superintendent to supervise fulfillment of the balance sought.

Article 67.– Duties of the Ministries with regard to public utilities. The Ministry of Mines and Energy, the Ministry of Communications and the Ministry of Development, will have the following duties with regard to power and fuel gas, telecommunications, and water supply and basic sanitation, respectively:

- State the technical requirements to be met by works, equipment and procedures used by public utility companies in the sector.
- No less than every five years, develop an expansion plan for public utility coverage, to be overseen by the ministry, determining all public investments to be made and private investments to be encouraged.
- Identify sources of financing for the public utility.
- Identify the amount of subsidies that the Nation should give the respective public utility, and the criteria with which they should be allocated.
- Gather information on new technologies and management systems in the sector, and disseminate it among public utility companies.
- Develop and maintain a suitable sectoral information system.
- The *Unidad Administrativa Especial* for Mines and Energy Planning of the Ministry of Mines and Energy will have the same legal regime as the Regulating Commissions referred to in the law and will continue exercising the functions assigned to it by law.

Article 68. – Delegating Presidential Functions to the Commissions. The President of the Republic will establish the general policies for public utility administration and efficiency control through public utility Regulating Commissions.

Article 69.– Organization and Nature. The Regulating Commissions are created as *Unidad Administrativa Especial*, with administrative, technical and capital autonomy, attached to the respective Ministry.

- *Comisión de Regulación de Energía y Gas Combustible*, attached to the Ministry of Mines and Energy.

Article 71.– Membership. The Regulating Commissions will be made up of:

- The respective Minister
- Three full–time experts commissioned by the President of the Republic
- The Director of the *Departamento Nacional de Planeación*

Article 73. – General Duties and Powers. The Regulating Commissions have a duty to regulate monopolies in public utility provision, when competition is not possible *de facto*; and in all other cases, to promote competition among those providing public utility services, so that the operations of monopolies or of competitors will be economically efficient, will not imply an abuse of dominant position and will produce quality services.

Article 74. –Special Functions of the *Comisión de Regulación de Energía y Gas Combustible*.

- To regulate the activities of the power and fuel gas sectors
- To issue specific regulations for the self–generation and co–generation of electricity and efficient use of power and fuel gas.
- Establish the work regulations for planning and coordination of the National Interconnected System operation and to regulate the operations of the wholesale power and fuel gas market.
- Set the tariffs for sale of electricity and fuel gas
- Define methodologies and regulate tariffs

Article 75. – Presidential Functions for the *Superintendencia de Servicios Públicos Domiciliarios*. The President of the Republic will exercise the control, inspection and oversight of entities that provide public utility services through the *Superintendencia de Servicios Públicos Domiciliarios*.

Article 90. Tariff Formulas. The following charges may be included:

- Charge per unit of consumption
- A fixed charge that reflects the economic costs involved in ensuring continual availability of the service, regardless of use levels
- Charge for connection contributions

4.4. Regulated activities

Regulation of the hydrocarbons sector's own activities is done primarily by the Ministry of Mines and Energy and its attached entities, the *Comisión de Regulación de Energía y Gas* (CREG) and the *Agencia Nacional de Hidrocarburos* (ANH).

The Ministry of Mines and Energy regulates oil product prices according to the Congressional Law that establishes the price–setting parameters.

Since 2004, oil and gas contracts are entrusted to the *Agencia Nacional de Hidrocarburos*, which sets their characteristics according to the provisions of the Royalties Law as regards liquidation of the royalties. Other types of taxes such as the income, property, industry and commerce, and stamp taxes are determined by law.

Presently, any enterprise can bid on oil areas, whether alone or in partnership with ECOPETROL.

The wellhead price of natural gas has been regulated by CREG, but will be free as of 2008.

Tariffs for transportation and distribution to the final user are regulated by CREG.

ECOPETROL, being a State–owned enterprise, is subject to congressional control and to all norms that regulate public enterprises, especially the contracting statute, which limits it

to acting in competition with the private sector. However, with the sale of 20 percent of its shares in September 2007, the nature of the enterprise will change to mixed State and private ownership with a private enterprise regime.

Oil import can only be done by ECOPETROL but oil derivatives can be imported by any private, public or mixed agent.

Building and operating refineries is free, so any private company can carry out this operation. Rather, there are restrictions for ECOPETROL, but by becoming a mixed company it may undertake building and operating new refineries.

Practically all activities of the hydrocarbons sector are regulated or overseen in one way or another, whether to grant operating permits, technical standards, exploitation conditions, tax payments, production control, restrictions on concentration, tariff and price setting, profit sharing for Colombian staff, control on profit remittance, and limited investments in the case of ECOPETROL.

Oil and natural gas exploration and exploitation contracts are subject to regulation by the Oil Code as per the new contract model, as explained below.

Transportation via oil and product pipelines is controlled by the Ministry of Mines and Energy in terms of permits, technical specifications and rate setting.

Gas pipelines are regulated by the *Comisión de Regulación de Energía y Gas (CREG)*, as is commercialization.

Refining is subject to control by the Ministry of Mines and Energy in terms of permits for refinery construction and supervision.

The Ministry is responsible for oil product trade in terms of standards, qualities and prices. Except for diesel and gasoline, prices for all other derivatives are free.

LPG is regulated by CREG, except as regards technical standards for transportation, but prices on transportation, storage and marketing are regulated.

5. INSTITUTIONS AND AGENCIES – ORGANIZATION, FUNCTIONS AND INTERRELATIONS

The hydrocarbons sector includes the exploration, production, transportation, refining, and commercialization businesses.

Production

The largest multinational companies in the world participate in the activities of this sector. There is BP, SHELL, Total, EXXON, PETROBRAS, and many smaller ones from the

United States and Europe. Recently, companies from Russia, India and China have come on the scene.

In production, as of the adoption of the new oil contract in 2004, private enterprises have the same rights as the public entities ECOPETROL and TGI (*Transportadora de Gas del Interior*). But before that year they had a 50 % share in partnership contracts.

Refining

As for refining, refineries are currently State–owned, but with the new policy to modernize the Cartagena refinery, the private sector will have a strong 51 % share in their ownership and operation.

The total refining capacity is 333,300 BPD, distributed among two large refineries: Barrancabermeja, with a load capacity of 238 KBPD, and Cartagena, with 76 KBPD, and three small ones: Apiay, located near Villavicencio, with a nominal capacity of 2.5 KBPD; Orito, in Putumayo, with a capacity of 2.8 KBPD, and Nare, in the Municipality of Port Triunfo in Antioquia, that processes 14 KBPD and is the only private refinery. In 2006, a 30 KBPD private refining project was under construction, located in the department of Santander, to process crude oil from Cusiana.

The energy policies of the past years sought for new refineries to be built and operated by the private sector.

This policy gave the international private sector the Cartagena refinery expansion from 76 KBPD to 140 KBPD, as per an international public bidding contest opened in 2006.

Transportation of oil and oil products

As regards transportation, most oil, product and gas pipelines are public, but the private sector already has a significant presence.

In late 2006, the network of oil pipelines consisted of 4,876 kilometers distributed among 41 pipelines, of which ECOPETROL owns 1,400 kilometers (28.71 %), the private sector owns 785 kilometers (16.1 %) and the remaining 2,691 kilometers (55.2 %) are oil pipelines owned by partnerships between ECOPETROL and third parties.

The broadest and longest oil pipelines are: a) those that transport crude oil from the *Piedemonte Llanero* (Cusiana and Cupiaga) to the Novenas Sea Terminal, an export port situated on the Caribbean Sea, with a total length of 790 kilometers; and b) the 770 kilometer–long *Caños Limón–Río Zulia–Covenas* oil pipeline that transports crude oils produced in Caños Limón (Arauca) and belongs to the ECOPETROL / OCCIDENTAL partnership.

During the past 15 years, the policy for developing oil pipeline infrastructure has been aimed to attract private sector investment or promote partnerships among private producers and ECOPETROL.

The national oil pipeline network is fundamentally designed to take crude oil to the Covenas export ports on the Caribbean Sea and the Barrancabermeja and Cartagena refineries. These are also the *Port Colón–Orito–Tumaco* oil pipeline owned by ECOPETROL to transport oil from Ecuador for export through the Tumaco port on the Pacific, under an agreement between Colombia and Ecuador.

For oil product transportation, the country has a 3,500–kilometer network of product pipelines, 99 % of which are owned by ECOPETROL, except for the *Medellin–Ríonegro* product pipeline, whose owner is the company *Terpel Antioquia*.

Fuel Distribution

Wholesale distributors purchase products from ECOPETROL or private refiners, store them at 45 plants and mix in additives, and then take them to service stations. Retail distributors purchase fuels from wholesale distributors at supply plants and sell them to users at service stations.

Wholesale and retail dealerships are preponderantly one hundred percent privately owned. That is, the Colombian hydrocarbons sector has a mixed stock makeup, as the private and public sectors coexist.

5.1. State–level organization of the hydrocarbons sector

In order to understand the hydrocarbons sector institutions and agencies in Colombia, one must bear in mind that the country is divided into departments, then into municipalities, and that traditionally next to national–level entities there are regional and municipal enterprises, especially at the latter level in cities such as Bogota, Medellin and Cali.

First we will give a description of the entities that have to do with the hydrocarbons sector from national perspective, and then a brief reference to the role of the municipalities.

Figure 1 shows the public organization of the hydrocarbons sector at a national level. At the head is the President of the Republic, the maximum policymaker for the sector. Next is the *Consejo Nacional de Política Económica y Social* (CONPES), an agency made up of the ministers of the economic area presided by the President of the Republic, which makes the country's general and specific policies, particularly those for the hydrocarbons sector. The *Departamento Nacional de Planeación* is in charge of the CONPES secretariat.

Four ministries have to do with the sector. The Ministry of the Treasury and Public Credit, the Ministry of Housing and the Environment, the Ministry of Transportation, and the Ministry of Mines and Energy.

Under the Ministry of Mines and Energy are: the *Agencia Nacional de Hidrocarburos* (ANH), ECOPETROL, the *Unidad de Planeamiento Minero–Energético* (UPME) and the *Comisión de Regulación de Energía y Gas* (CREG).

Under the President of the Republic is the *Departamento Nacional de Planeación* (DNP), which serves as the Secretariat of the CONPES. Within the State organization is the *Superintendencia de Servicios Públicos Domiciliarios* (SSPD), under the DNP, whose purpose is to control public utility companies, such as natural gas and LPG distributors.

As mentioned at the start, we should consider the role of the municipalities in the sector, since in Colombia three key enterprises in the natural gas sub–sector are relating to the governments of Bogota and Medellin as shown in Figure 2.

As for Bogota, in late 2006, the *Empresa de Energía de Bogotá* (EEB), whose majority owner is the municipality, purchased from the National Government one hundred percent of the *Empresa Colombiana de Gas* (ECOGAS), changed to the *Transportadora de Gas del Interior* (TVI). The EEB is also a 25 % partner in the *Empresa Gas Natural*, whose majority shareholder is the Spanish company *Gas Natural de España*.

In the city of Medellin, the *Empresas Municipales de Medellin* (EPM), with entirely municipal capital, is in charge of natural gas distribution through its business EPM–GAS

The municipality of Neiva in the Department of *La Huila* has an interest in two natural gas companies: *Alcanos de Colombia* and PROGASUR S.A.

Current legislation allows municipalities and departments to create or form part of oil & gas sector companies. Thus it is that they have small shares in different natural gas distribution companies.

Figure 5.1.
ORGANIZATION OF THE HYDROCARBONS SECTOR
STATE – NATIONAL

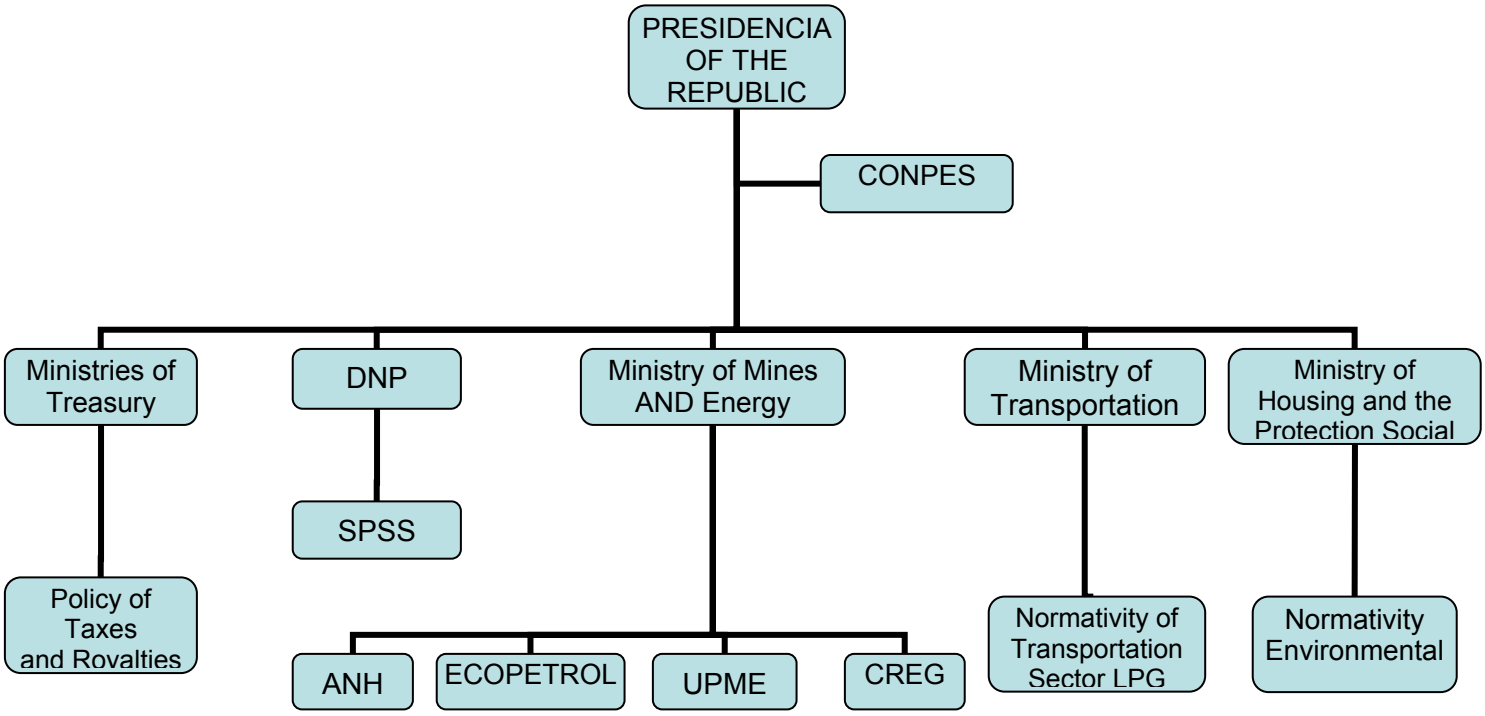
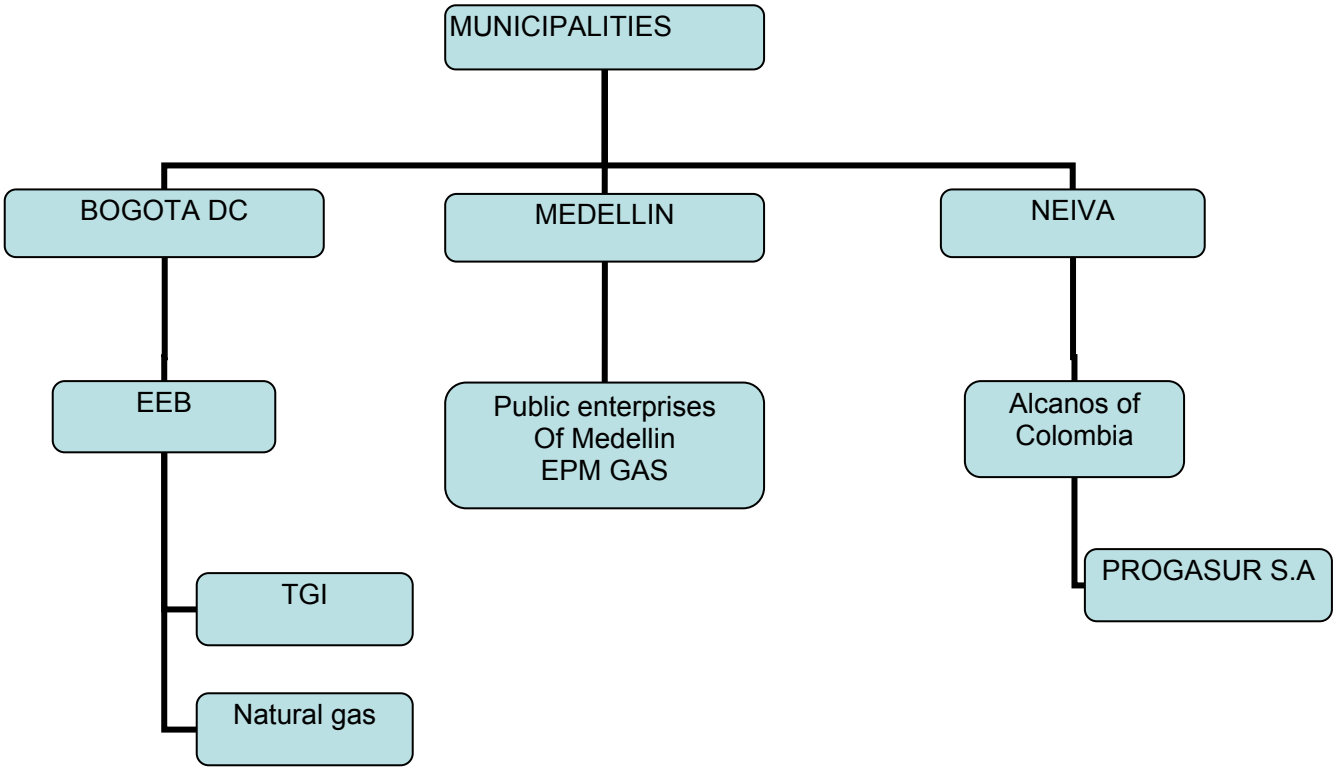


Figure 5.2.

MUNICIPAL PARTICIPATION IN
GAS TRANSPORTATION AND DISTRIBUTION



5.2. Organization and functions of the entities

5.2.1. *Departamento Nacional de Planeación* (DNP)

Origin of the DNP

Planning in Colombia began as a result of the constitutional reform of 1936 that empowered to the State to rationalize wealth production, distribution and consumption, and to offer Colombian workers adequate protection according to their acquired rights.

The *Consejo Nacional de Política Económica y Planeación* and the *Departamento Administrativo de Planeación y Servicios Técnicos* were created in 1958. These entities had the duty to study and give economic policy recommendations.

Following to this process, in 1968 the structures of the *Consejo* were changed and the aforementioned entities became the *Consejo Nacional de Política Económica y Social* (CONPES) and the *Departamento Nacional de Planeación* (DNP), respectively.

Since that time, the DNP began developing general plans and programs for the country with the collaboration of international technical missions.

During the seventies, more structured development plans began to be developed, and their focus was aimed at the economic growth of the country, with an emphasis on the planning process.

Functions

Its most important functions as relate to the hydrocarbons sector are the following:

- To design the National Development Plan for evaluation by the *Consejo Nacional of Planeación* and the *Consejo Nacional de Política Económica y Social* (CONPES) before being submitted to the national Congress, coordinate its execution, and do the follow–up and assessment of its implementation and results.

- To develop the planning guidelines issued by the President of the Republic and to coordinate the work of formulating the National Development Plan with the ministries, administrative departments and territorial entities.

- To coordinate all the public entities and agencies to guarantee the due fulfillment and execution of all policies, programs and projects contained in the National Development Plan.

- To direct, coordinate and enforce fulfillment of public investment policies, and ensure their consistency with the Public Investment Plan.

- To develop long–term plans on environmental and sustainable development policies.

- To design and organize the policies for the systems to assess public administration performance and outcomes, both with regard to policies and to investment projects. In any case, the *Departamento Nacional de Planeación*, may selectively carry out that evaluation on any entity territorial.

- To provide the President of the Republic with periodic reports and all other things requested about the fulfillment of development plans and provide assessment in preparing the report presented on this matter every year to the national Congress.

- To participate in raising domestic or foreign financing for the economic and social development plans, programs and projects. To this end it will support the public agencies and entities in preparing and presenting projects that can be financed with domestic and foreign loans and will participate in the respective negotiations.

- To study and evaluate the status and amount of the public and private foreign debt, and propose measures to the Consejo Nacional de Política Económica y Social (CONPES) as needed to fulfill the National Development Plan without exceeding the country's debt capacity.

- To keep a record of projects declared by the respective ministries as viable, to be financed with resources from the National Royalties Fund and to recommend priorities for the allocation of resources to these projects.

- With the collaboration of the pertinent agencies and entities, to prepare policies, plans, programs and projects related encouraging production activities and private investments.

- To participate in the evaluation of domestic or foreign private investment projects that require the intervention of the National Government.

- To participate in policy–making for public utility services through the Regulating Commissions, and to promote their adoption by the public utility companies.

- To draw up the general policies and develop plans for control and oversight strategies for suitable, efficient the public utility service provision.

- To control and oversee, whether directly or through hired external auditors, the correct use of resources from royalties and compensations on the exploitation of non–renewable natural resources owned by the State and take any corrective measures needed when poor utilization of said resources is detected.

- To direct, coordinate and enforce the public investment policies relating to the National Royalties Fund, in conformity with what is set forth in the Constitution and the Law.

- To design methodologies for declaring the viability of projects to be financed with resources from royalties or compensations.

As the Secretariat of the *Consejo Nacional de Política Económica* (CONPES), made up of the ministers of the economic areas, the DNP has a series of duties, outstanding among which are the following:

- To submit the National Development Plan to its consideration, in the terms stated in the Organic Law of the Plan.

- To present, for its approval, the policies, strategies, plans, programs and projects of the National Government.

- To present, for its review, studies on the execution of the National Development Plan and of the policies, strategies, programs, and projects of the National Government.

- To submit, for its study and approval, the bases and criteria for public investments.

- To present, for its study and approval, the disbursements schedule for public sector foreign debt.

- To prepare, and submit to its consideration, the items relating to loans contracted by the Nation or by public entities, in the terms provided in applicable legal provisions.

- To prepare, and submit to its consideration, the items relating to the granting of guarantees by the Nation for domestic or foreign credit contracts by public entities, in the terms set forth in applicable legal provisions.

- To present, for its study and approval, the amounts and distribution of the profits and the surplus of the decentralized entities.

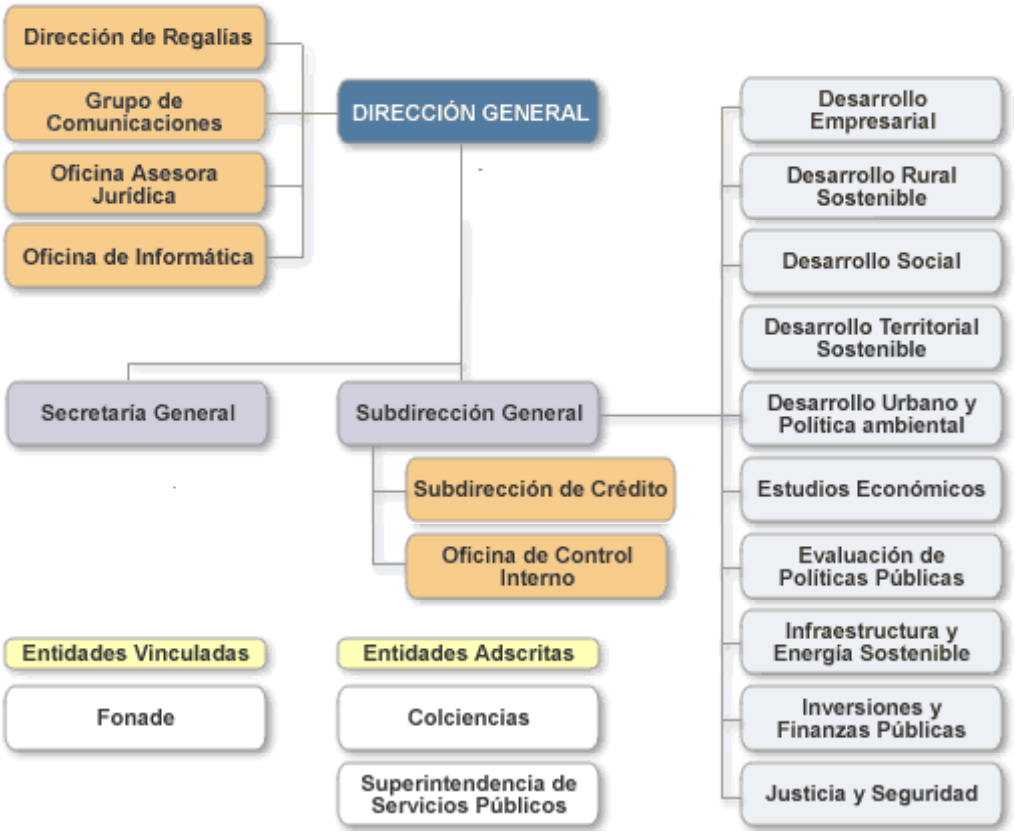
Organization

Within the structure of the DNP, there are two units having to do with the hydrocarbons sub–sector, which are the *Dirección de Regalías*, that manages all types of royalties, and the *Dirección de Infraestructura y Energía Sostenible*, that attends to all things relating to energy in general.

Its attached entities include the *Superintendencia de Servicios Públicos Domiciliarios* (SSPD), which is in charge of the follow–up and control of public utility companies.

Figure 5.3.

ORGANIGRAMA DEL DNP



5.2.2. Ministry of Mines and Energy

History

The Ministry of Mines and Energy began in 1940 as the Ministry of Petroleum, and became the Ministry of Mines and Energy in 1974.

Organization

The organizational chart of the Ministry of Mines and Energy, updated at August 2007, is shown in Figure 5.4.

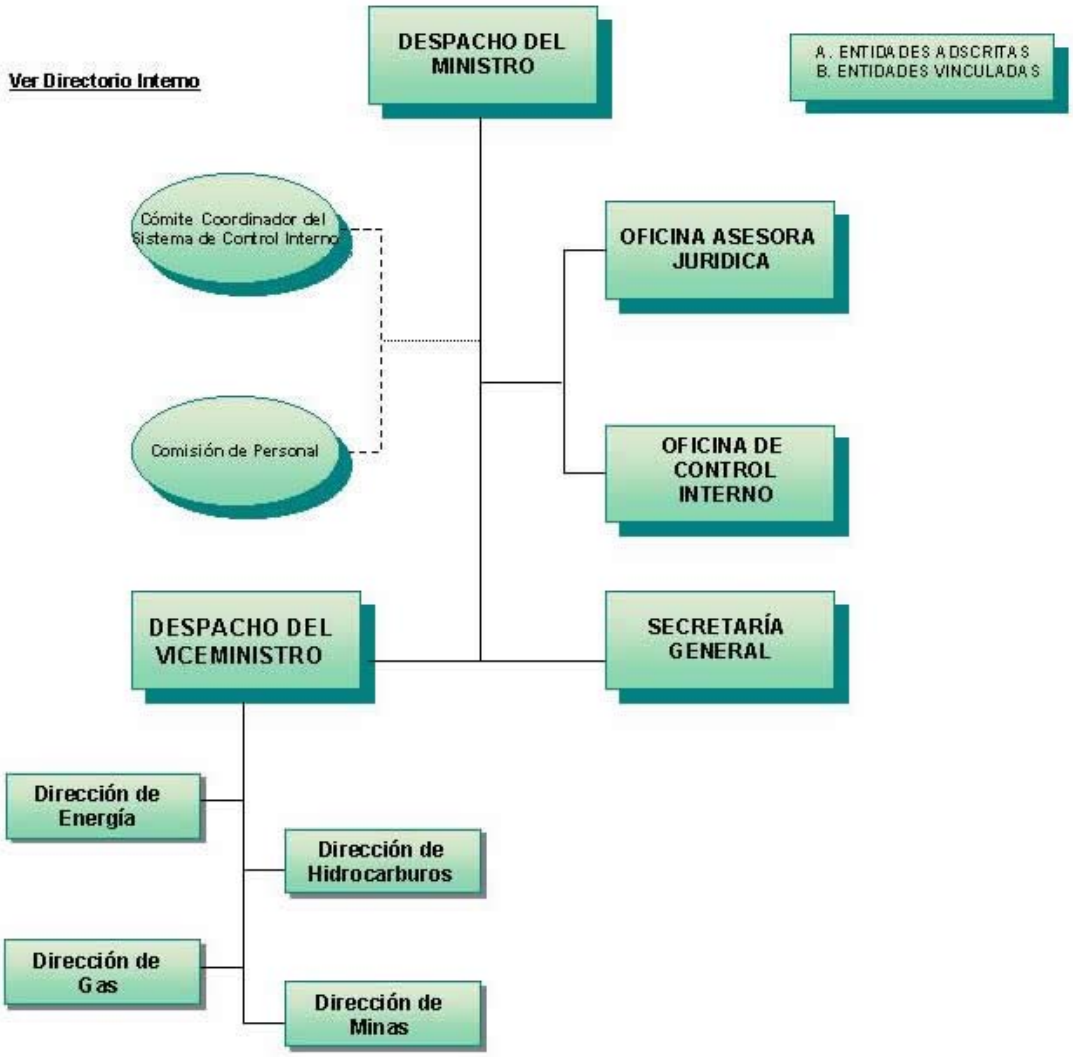
The head of this Ministry is the Minister of Mines and Energy, followed hierarchically by the Deputy Minister, who is in charge of the *Dirección de Hidrocarburos y de Gas*.

This office deals with all technical matters and overseeing the companies of the hydrocarbons sub–sector. In order to determine royalties, officers of this department inspect the fields to determine the effective production of oil and natural gas.

Four important entities report to the Ministry of Mines and Energy: the *Agencia Nacional de Hidrocarburos* (ANH), ECOPETROL, *Comisión de Regulación de Energía y Gas* (CREG), and the *Unidad de Planeamiento Minero–Energético* (UPME). The latter, the *Unidad de Planeamiento Minero–Energético*, acts as the planning office for the Ministry, and is the one in charge of developing all the studies and preparing the country's energy plans.

Figure 5.4.

Organization Chart of the Ministry of Mines and Energy



5.2.3 Ministry of Transportation

History

The history of the Ministry began in 1905 when the Ministry of Public Works and Transportation was created. In 1993 it became the current Ministry of Transportation.

Organization

In the year 2000 the Ministry's structure was changed when the decision was made to separate the different duties it performed, as follows:

- Planning: the job of the Ministry.
- Regulation: the job of the Ministry of Transportation through the *Comisión de Regulación del Transporte* (CRTR).
- Supervision: the job of the *Superintendencia de Puertos y Transporte* (except when by air).
- Execution: the job of the Ministry (for river and ocean transportation), vis–à–vis *Invías, Aerocivil, FNCV,* and *Ferrovías*.

Functions

Among the functions of the Ministry of Transportation, the following stand out:

- To formulate the policies of the National Government in matters of transit, transportation and infrastructure of the modalities under its jurisdiction.

- To establish the policies of the National Government for direct, controlled and free tariff setting for national and international transportation with regard to the modalities under its jurisdiction, without prejudice to what is set forth in international conventions and treaties.

- To formulate technical regulations in matters of transit and transportation via roads, sea, river, and railroads.

- To formulate economic regulations relating to transit, transportation and infrastructure for all modes of transportation.

- To draft the transportation and infrastructure sector plan, in coordination with the *Departamento Nacional de Planeación* and entities of the sector, and to evaluate its outcomes.

- To develop modal plans for transportation and related infrastructure with the support of executing agencies, territorial entities and the *Dirección General Marítima* (DIMAR).

5.2.4 Ministry of Housing and the Environment

History

The Ministry of the Environment was created in 1993, and it became the Ministry of the Environment, Housing and Territorial Development in 2003 when the duties of the Ministry of the Environment and the Ministry of Development were merged with it.

Functions

- To formulate policies and regulations for the conservation and recovery of ecosystems for sustainable use, management and protection of biological diversity and all other natural resources, ensuring the supply of environmental goods and services with a view to achieving fair, equitable distribution of the benefits derived from their use and development.

- To orient the adoption of sustainability criteria in the activities of productive and institutional sectors, seeking to incorporate systems for environmental management, technological reconversion and consumption pattern change.

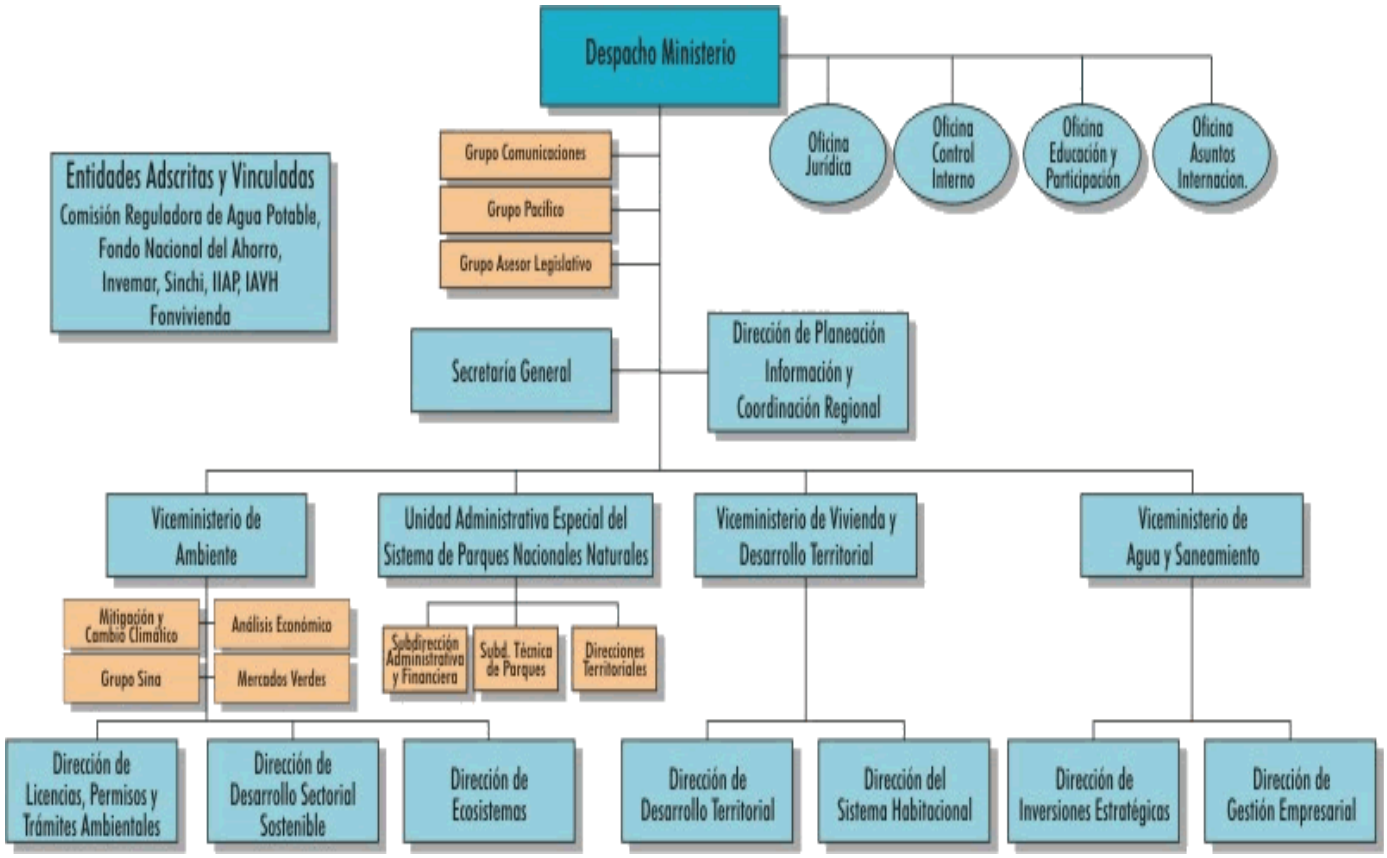
- To orient and coordinate the policy making and planning of the National Environmental System by developing coordination, information and financial instruments and mechanisms, for the purpose of strengthening the activities of the sector.

- To promote the country's sustainable development, taking into account the relations between the population and the natural baseline, constructed spaces and the regional environment, through policy making and regulation, regarding land–use planning, organization and territorial management.

The Ministry of the Environment defines the parameters for approval of environmental licenses at the different stages of the hydrocarbons sub–sector in exploration and production, construction and operation of oil, products and gas pipelines, refineries, storage centers, service stations, and propane tubing

Figure 5.5.

Organizational chart of the Ministry of the Environment, Housing and Territorial Development



5.2.5. Ministry of the Treasury and Public Credit

History

The Ministry of the Treasury is one of the oldest, having begun in the 19th Century. It plays a very important role in establishing taxes, approving foreign and domestic indebtedness for public entities, manages the government's shares in companies and participates in developing the national budget and the development plan. This ministry participates in the Board of Directors of ECOPETROL, the *Agencia Nacional de Hidrocarburos*, the *Comisión de Regulación de Energía y Gas* and is an important member of the *Consejo Nacional de Política Económica y Social* (CONPES).

Functions

The Ministry of the Treasury and Public Credit has the following duties that affect the hydrocarbons sub–sector in one way or another.

- To participate in defining and direct the execution of the State's economic and tax policies.

- To coordinate the government's financial, monetary, credit, exchange, and tax policies with the Board of Directors of the *Banco de la República*.

- To prepare, for submittal to consideration of National Congress, draft bills and laws, the draft National Development Plan, the draft General Budget of the Nation, and in general all things relating to the areas under its jurisdiction.

- To perform the duties and attend to the services assigned to it and, in the development of laws and respective decrees, to dictate any norms necessary to the effect.

- To coordinate, direct and regulate the administration and collection of taxes managed by the *Unidad Administrativa Especial* and the *Dirección de Impuestos y Aduanas Nacionales*; and to regulate, in conformity with the law, the management and collection of rent, fees, fiscal and parafiscal contributions, national fines, and all other fiscal resources, their accounting and expenditure.

- To prepare drafts to regulate the process of appraisal, valuation and collection of the customs duties and all other matters regarding the regulation of customs service administration.

- To direct the preparation, modification and follow–up of the General Budget of the Nation, of the budget for State–owned industrial and commercial enterprises, of mixed–economy companies within the latter, under the conditions established by law.

- To participate in developing the draft bill for the National Development Plan and to develop the draft bill for the yearly budget in coordination with the *Departamento Nacional de Planeación* and any other agencies that the law has given a say in this matter.

- To manage the National Treasury and attend to paying the Nation's obligations, whether through executing agencies or directly, as the *Cuenta Única Nacional* develops.

- To manage the Nation's shares in mixed economy companies related to the Ministry and in other mixed economy companies, by virtue of inter–administrative agreements entered to for this effect; and to coordinate the process of selling assets and stocks in them.

- To perform the follow–up of financial activities and investments of national–level decentralized entities.

- To custody and conserve the title deeds representing securities owned by the Nation and title deeds of any kind to its name.

- To sell or purchase, whether within the country or abroad, title deeds of the National Government and other reserve assets.

- To orient the management of related financial and non financial enterprises.

- To perform the direction, coordination and control of agencies under it or related to it.

Organization

The organization of the ministry includes the *Dirección de Credito Publico* in charge of managing the country's foreign debt, of which all entities must request approval before taking on debts.

5.2.6. *Comisión de Regulación de Energía y Gas* (CREG)

History

The CREG was created by Laws No. 142 and 143 of 1994 among reforms instituted as a result of the Constitution of 1994, under the policy of separating regulatory functions from the State.

Thus it is that Article 69 of Law No. 142 of 1994 creates the *Comisión de Regulación de Energía y Gas Combustible* as a special administrative unit with administrative, technical and economic autonomy, attached to the Ministry of Mines and Energy.

Functions

According to Laws No. 142 and 143 of 1994, the following functions have been assigned to the *Comisión de Regulación de Energía y Gas*:

Law No. 142 of 1994, Art. 73.– General Duties and Powers: Regulating commissions have the duty to regulate public utility monopolies, when competition is not possible *de facto*; and in all other cases promoting competition among those providing public utility services, so that monopoly or competitive operations are economically efficient, imply no abuse of dominant position, and produce quality services. For this purpose, they will have the following special duties and powers:

- To submit to its regulations, to the Superintendent's oversight, and to the norms this law contains in matters of tariffs, information, acts, and contracts, certain enterprises that are not public utilities, but for which there is proof that they have done or are preparing to do the following:
  - Compete unfairly with public utility companies;
  - Reduce competition between public utility companies;
  - Abuse of dominant position in providing goods or services similar those offered.

- To define efficiency criteria and develop indicators and models to evaluate the financial, technical and administrative performance of public utility companies and request evaluations it deems necessary in order to do its job.

- To set the quality standards that public utility companies should follow in providing the service.

- To define in what cases it is necessary for works, installations and the operation of equipment by public utility companies to submit to official technical standards, in order to promote competition or avoid harm to third parties, and to ask the respective ministry to prepare them when deemed necessary.

- At the request of any of the parties, to resolve conflicts arising among enterprises by reason of contracts or rights of way among them when there is no other authorities administrative in charge of such a decision. Any decisions made will be subject to the control of jurisdictional legality.

- To establish tariff–setting formulas for public utilities when appropriate pursuant to what is set forth in article 88; and to determine when there is sufficient competition for tariff setting to be freed up.

- To order that a public utility company be divided into others having the same purpose as the original company, or whose purpose is limited to a complementary activity, when it is found that the company to be divided uses its dominant position to prevent competition from developing in a market where it is possible; or when the company to be divided uses outputs from one of its services lacking competition to provide subsidies for another service that has competition; or in general adopts practices that restrict competition.

- To order companies to merger when studies show it to be essential to extender coverage and reduce costs to users.

- To order the liquidation of official monopolistic enterprises in the field of public utilities and allow third parties to develop their activities, when they do not meet the efficiency requirements referred to in this law.

- To prevent those capturing or producing assets to be distributed by public utility companies from entering into agreements that are contrary to free competition in

detriment of distributors; and to demand that contracts specify the different components that define prices and tariffs.

- In accordance with the law, to determine when to establish a regulated freedom or supervised freedom regime or to state when it is appropriate to free tariff setting.

- In accordance with the law, to establish general criteria on the abuse of dominant position in public utility contracts, and on protecting users rights regarding billing, marketing, and all other matters relating to company relations with users.

- To establish the general requirements general that public utility companies should submit to in order to use existing networks and gain access to public interconnected networks. Likewise, to establish tariff formulas to collect for transportation and interconnection to networks, according to the rules of this law.

- To establish the essential mechanisms to prevent concentration of stock ownership in companies having complementary activities in the same sector or in similar sectors in the provision of each public service.

- To regulate the activities of the power and fuel gas sectors to ensure the availability of efficient energy supply, promote competition in the mines and energy sector and propose measures needed to prevent abuses of dominant position and seek the gradual liberation of markets towards free competition. The commission may adopt differential rules of behavior, depending on the position of enterprises on the market.

- To issue specific regulations for electricity self–generation and cogeneration and the efficient use of power and fuel gas by consumers, and establish criteria for setting guaranteed energy and power sales commitments among electric companies and between them and large users.

- To establish the working regulations for planning and coordinating the operations of the national interconnected system and to regulate the functioning of the power and fuel gas wholesale market.

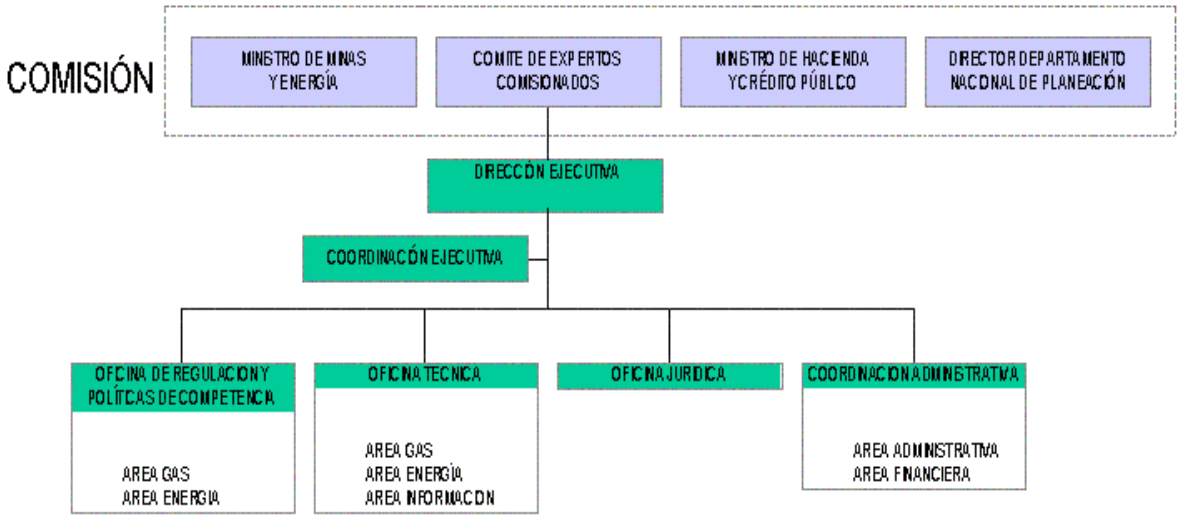
- To set sale tariffs for electricity and fuel gas, or to delegate the power to set these tariffs to distribution companies when advisable within the purposes of this law, under any regime it may determine.

- To create the conditions needed to ensure the availability of efficient energy supply that will meet the demand under social, economic, environmental and financial viability criteria, to promote and preserve competition.

- To determine the conditions to gradually free the market towards free competition.

Organization

Figure 5.6. – Organizational chart of the CREG



5.2.7. *Superintendencia de Servicios Públicos Domiciliarios* (SSPD)

The SSPD was created by Public Utilities Law No. 142. It is currently under the *Departamento Nacional de Planeación*.

Functions

- To publish performance evaluations of service operators and provide the respective data upon request. To issue opinions on public utilities for Regulating Commissions and Ministries requesting them.

- To certify that stratification was done correctly for subsidies granted with national resources at the request of the nation, based on the results of stratifications sent by the country's municipalities and districts, with regard to its urban areas, populated centers and rural zones.

- To establish the information and accounting systems to be used by public utility companies. To define information that enterprises should provide at no cost to the public and state the amounts that persons should pay for any special information they request of public utility companies, where there is no agreement between the requester and the company.

- To attend to any subsidy appeal recourses filed by subscribers and users, once the request for reconsideration has been resolved with the service provider. To resolve appeals to decisions made by Municipal officers, due to impugnment of the election of

control entity members. To resolve as a second instance any requests for reconsideration filed by users, in matters of stratification.

- To provide the orientation and technical support needed to encourage community participation in oversight and control tasks. To support the tasks of the *Committees de Desarrollo y Control Social* and provide the basic instruments of information and training for control entity members.

- To oversee and make sure that public utility provision entities comply with Law No. 142 of 1994, its regulatory norms and those issued by the Regulatory Commissions; that they fulfill all uniform condition contracts formalized between public utility companies and users; that subsidies are given to least–income persons; that public utility companies comply with performance indicators set by the Regulatory Commissions; and that all works, equipment and procedures meet the technical requirements established by the Ministries.

- To investigate any irregularities seen in companies providing public utilities, request documents and make visits, inspections and exams, as necessary to fulfill its other duties.

- To penalize entities in charge of providing public utilities when they do not comply with the norms to which they are bound. The penalties that the superintendent can impose are: warnings; fines of up to 2000 monthly basic wages; suspending activities and closing buildings used to do the business being penalized; dismiss managers or employees and forbid their working for similar companies for up to 10 years; request that authorities decree the expiry of contracts formalized by the entity or cancel its licenses, forbid it from providing public services for up to 10 years; order the dismissal of managers and/or Board members; confiscate public utility companies to manage or liquidate them.

5.2.8. *Agencia Nacional de Hidrocarburos* (ANH)

History

In 2003, by the Decree No. 1760 the hydrocarbons sector restructured through the creation of the *Agencia Nacional de Hidrocarburos* in response to a drop in reserves and to the decision of making ECOPETROL more competitive, by dividing its double role as regulatory entity and oil company.

Thus, the *Agencia Nacional de Hidrocarburos* inherited from ECOPETROL the task of managing and regulating oil & gas resources, so that the latter could be devoted entirely to exploring, producing, transporting, refining, and trading in hydrocarbons.

Functions

- To manage the Nation's oil & gas fields and allocate their exploration and exploitation.

- To assess the country's oil & gas potential.
- To administer and formalize new contracts for oil and gas exploration and exploitation.
- To design, evaluate and implement strategies to promote the nation's oil & gas fields.
- To assist the Ministry of Mines and Energy in making governmental policies for the sector.
- To manage and preserve technical data, whether existing or to be obtained in the future by the country.
- To convene in contracts the terms of community aid programs in the areas of influence of the respective contracts, to be furthered by contractors.
- To administer State shares in exploration and exploitation contracts.
- To manage and instruct that assets pass to the State upon contract termination or concession reversal.
- To collect all royalties and monetary compensations belonging to the State due to oil and gas exploitation, and to transfer such resources to entities entitled to them.
- To withhold all participations and royalties that belong to participating entities and are allocated to the *Fondo de Ahorro y Estabilización Petrolera* (FAEP), and make the respective transfers and reimbursements.
- To advance any actions required to seek sufficient supply to meet the national demand for hydrocarbons, derivatives and products.
- To set the concession oil production volumes that developers should sell for domestic refining.
- To set the sales price for concession crude oil allocated to domestic refining for processing or use within the country, and for all natural gas that is effectively used as raw materials in industrial petrochemical processes where appropriate.
- To perform all other activities relating to the administration of hydrocarbons belonging to the Nation, as well as those assigned by law or regulations and that are in accordance with the nature of the Agency.

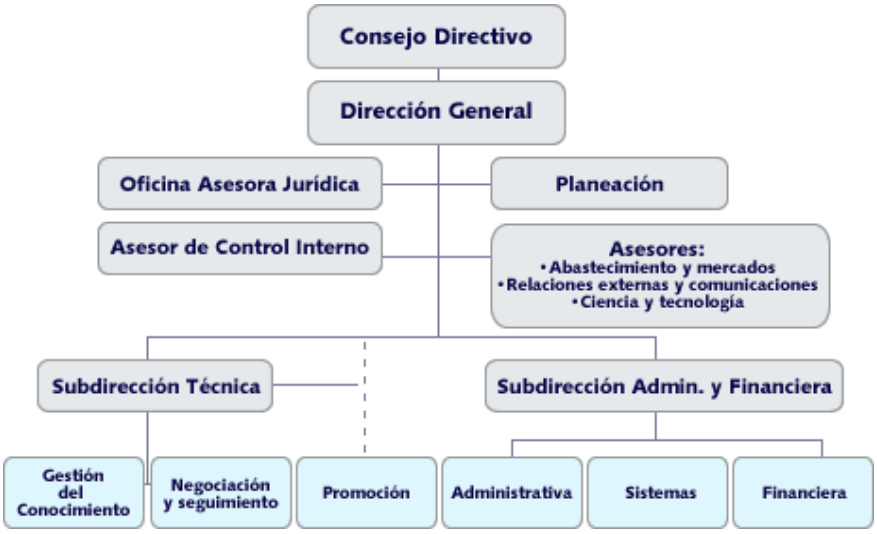
Organization

Consists of a Board of Directors presided by the Minister of Mines and Energy and made up of the Minister of the Treasury, the Director of the National Planning Department, and two delegates of the national President.

The Director General is named by the President of the Republic.

Figure 5.7

Organization of the *Agencia Nacional de Hidrocarburos*



5.3 Interrelations

From the viewpoint of the National Government, the ministries and entities relating to the hydrocarbons sub–sector are interlinked through different mechanisms.

According to the 1991 Constitution, upon beginning its mandate the administration should present a development plan that is binding on everyone and is designed by the *Departamento Nacional de Planeación* in consultation with all ministries. These four–year plans include policies and programs, investment budgets and sources of financing.

On the other hand, as the investment plan coordinator and Executive Secretary of the CONPES, the *Departamento Nacional de Planeación* regularly presents that institution, at its periodic meetings, with projects, policy changes and proposals for the hydrocarbons sub–sector, in coordination with the Ministry of Mines and Energy, which in turn consults its attached agencies such as the *Agencia Nacional de Hidrocarburos*, ECOPETROL and the *Comisión de Regulación de Energía y Gas*.

The Minister of the Treasury, the Minister of Mines and Energy and the director of the *Departamento Nacional de Planeación* all have seats in the *Agencia Nacional de Hidrocarburos*, ECOPETROL and the *Comisión de Regulación de Energía y Gas*, in such wise that any change in the sub–sector is discussed by all interested parties at a national level.

6. CONTRACTS, AGREEMENTS AND OIL CONCESSIONS: COMPETENT AGENCIES, CHARACTERISTICS, CONTRACTUAL MODELS, ROYALTIES AND RETRIBUTIONS

This chapter will present the rules and regulations for oil and natural gas exploration and production contracts; the referential regulations for the natural gas sub–sector in terms of gas prices, transportation and distribution, and norms for LPG and oil derivatives.

6.1. Oil contracts

6.1.1. Oil contract evolution

Oil contracts have evolved in Colombia, beginning as concession contracts. The first ones, granted in 1905, were to develop the Mares Concession in *Magdalena Medio*, whose center of operations was the municipality of Barrancabermeja, and these areas and facilities were subsequently returned to the State–owned company ECOPETROL. This contracting system lasted until 1969, when partnership contracts were introduced, when Decree No. 2310 of 1974 established the grounds for them and granted ECOPETROL the exclusive right to explore and exploit nationally–owned oil & gas directly or indirectly under contracts other than concession contracts.

In this original contract, which operated until 1987, production was distributed 50–50 after paying the partner the 20 % royalty.

From 1987 to 2002, several changes in partnership contracts were introduced regarding how to distribute production among the parties, but it was by Law No. 756 of 2002 that the royalty regime was changed radically, when a variable royalties system was established, with royalties varying from 5 % to 25 %, depending on daily production averages.

With the creation of the *Agencia Nacional de Hidrocarburos* in 2003, the responsibility to administer the nation's oil & gas resources was transferred to this entity under the Ministry of Mines and Energy, and taken away from ECOPETROL.

For the purpose of encouraging investments, in 2004 new elements to be considered when contracting oil & gas exploration and production were defined. This was large step away from partnership or shared risk contracts, as it reestablished the modern concession contract type where investors assume all risks in exchange for obtaining all production rights after paying royalties.

The change from concession contracts to partnership contracts produced positive results, as exploration intensified and very important reservoirs were found, such as *Caño Limón* reservoir in Arauca and Cusiana and Cupiaga reservoirs in the department of Casanare. This made Colombia an oil exporter once again, after having lost that status in 1973 due to the lack of exploration. Through these contracts and discoveries the financial situation of ECOPETROL improved notably, but this success was negative as it kept this State–owned enterprise from dedicating its resources to exploration. It was argued that exploration was

a very risky area in which the State–owned enterprise should not participate, and that rather it should attract foreign investment through partnership contracts so that private enterprise would take all the exploratory risks.

When international prices began to drop after 1986 and the world returned to a situation of excessive oil supply, exploration levels dropped everywhere, particularly in Colombia. Since the State–owned enterprise was not allowed to dedicate sufficient resources to explore, as all economic surpluses went to the central coffers, there was no money to invest, and since the foreign enterprises cut their exploration, there were no more oil discoveries in Colombia from 1993.

Then came discussions, and under pressure from foreign oil companies the blame was placed on the conditions of the partnership contracts, which according to them were uncompetitive. This brought reforms in the profit distribution rules, and the results were seen immediately.

Finally it was argued that it was necessary to go further and eliminate the restriction that companies could only explore and operate jointly with ECOPETROL, resulting in the New Oil Contract of 2004. Another argument was the need to make ECOPETROL efficient and that this required the enterprise to submit to competition. The *Agencia Nacional de Hidrocarburos*, to manage all oil & gas resources, was created in the likeness of what had been operating in Brazil, and ECOPETROL was removed from that role it had been playing for several decades.

6.1.2. The new oil contract

The new oil contract, approved in 2004, contemplates three stages: exploration, evaluation and exploitation. Added to this model was a Technical Assessment Agreement (TEA) by which a large–size area could be assigned for surface works in order to obtain better information on the presence of hydrocarbons in a specific zone, which could have a duration of up to 18 months.

This contract grants **contractors** the exclusive right to explore the contracted area and exploit all State–owned oil & gas discovered within that area, implementing all activities and operations at its own cost and assuming 100 % of the risk, and supplying all resources needed to project, prepare and implement the exploration, evaluation, development, and production activities and operations within the contracted area.

The main characteristics of the new contract are the following:

- An *Exploration Period* of six (6) years, during which contractors should carry out the Minimum Exploration Program, understood as the exploration schedule that contractors undertakes to execute as a minimum during each phase of the Exploration Period. It also contemplates the possibility of a Subsequent Exploratory Program of four years at the most, divided into two phases.

- An *Evaluation Period* when a discovery is assessed to determine whether it is a commercial field. This lasts for two years when it includes drilling exploration wells or one (1) year in all other cases, after which a Commerciality Statement is made. For gas and heavy crude oil, there will be an two years of duration (up to 4 or 5 years).

- An *Exploitation Period* for each area, for up to 24 years plus its extensions, if any, from the date of the Commerciality Statement for the respective Commercial Field, during which **contractors** should carry out the development and production operations.

  When it is deemed necessary to extend this period, the request should be made within no more than four years or less than one year from the expiry date.

  Likewise, when the Exploitation Period terminates, **contractors** will leave in good working conditions all wells that that are productive at that time and all buildings and other constructions, all of which will be transferred free of charge to the ***Agencia Nacional de Hidrocarburos*** with all rights of way and goods acquired to benefit exploitation to the Delivery Point, even if such goods are outside of the Exploitation Area.

- *Royalty Payments*. Variable royalties from 8 % to 25 % are determined according to the levels of production, as follows:

  - For production equal to or less than 5 KBPD: 8 %

  - For production greater than 5 KBPD and less than 125 KBPD: X %

    Where:

    $$X = 8 + (\text{production KBPD} - 5\ \text{KBPD}) * 0.10$$

  - For production greater than 125 KBPD and less than 400 KBPD: 20 %

  - For production over 400 KBPD and less than or equal to 6000 KBPD Y %

    Where:

    $$Y = 20 = (\text{production KBPD} - 400\ \text{KBPD}) * 0.20$$

  - For production greater than 600 KBPD: 25 %

  To determine natural gas royalties, we assume that a barrel of oil is equal to 5700 cubic feet of gas.

  For gas fields located on land and off–shore to a depth of less than or equal to one thousand (1000) feet, apply royalties equivalent 80 % of crude oil exploitation; for

exploitation of fields located off–shore at a depth of over one hundred (100) feet, apply a royalty equal to 60 % of crude oil exploitation.

For crude oils with a gravity of less than 15 degrees API, the royalty will be 5 % of that applied for light and semi–light crude oils. This provision will only apply to new discoveries, to fields with incremental production or to fields discovered but not developed.

- From the Inspection Point, without prejudice to the legal provisions regulating this matter, **contractors** will be free to sell within the country or export the hydrocarbons that pertain to it, or to dispose of them in any way. In other words, 100 % of production belongs to the investor after payment of royalties.

- For subsoil use, contractors will pay the *Agencia Nacional de Hidrocarburos* the fees relating to the established area. In *exploration areas,* the amount will be the product of multiplying the number of hectares and fractions of hectare in the contracted area, excluding exploitation areas in accordance with Table 6.1, which should be paid within the month following the beginning of the respective phase.

Table 6.1. – Value of ground rent per phase in US$ / Hectare

Size of area	**For first 100,000 hectares**		**For hectares in addition to 100,000**	
Phase Duration	**≤12 months**	**> 12 months**	**≤12 months**	**> 12 months**
In polygons A and B	0.75	1.0	1.0	1.5
Outside of polygons	0.5	0.75	0.75	1.0
Off–shore areas	0.25			

- *Payments for extraordinary earnings*: This type of contract is subject to fees for high prices, that is, that the *Agencia Nacional de Hidrocarburos* is only paid for extraordinary earnings. These fees should be paid, in the case of **liquid hydrocarbons,** when the accrued production of each Exploitation Area including the volume of royalties, surpasses five (5) million barrels of liquid hydrocarbons, and in the case that the crude oil price marker “West Texas Intermediate” (WTI) surpasses the base price **Po.** For **natural gas**, these fees will be paid five (5) years after beginning to exploit the field, and consist of an approval resolution issued by the competent authority, if the natural gas price marker "U.S. Gulf Coast Henry Hub" surpasses the base price **Po**.

The value to pay for this fee each Exploitation Area will be the result of applying the following formula:

Payment to the ANH = (hydrocarbons value at delivery point) * (contractor hydrocarbons volume) * (P – P0 / P) * 30 %

Where:

Hydrocarbons value at delivery point

For liquid hydrocarbons, the reference price for the respective calendar month, stated in Dollars of the United States of America per barrel (US$ / bl), of a basket of maximum three (3) crude oils of a quality similar to those from each Exploitation Area, presented by the **contractor** in the Exploitation Plan and agreed on with the **ANH** and adjusted to the Delivery Point, for a pre–agreed margin.

For natural gas, it will be the real sale price of production for the respective calendar month, stated in Dollars of the United States of America per million British Thermal Units (BTU) (US$ / MMBTU), agreed by the **contractor** with the purchasers, discounting the transportation costs from the Delivery Point to the actual point of sale.

Contractor hydrocarbons volume

The volume of hydrocarbons, stated in barrels for liquid hydrocarbons and in British Thermal Units (BTU) for natural gas, that belong to the **contractor** on a given calendar month.

P: For liquid hydrocarbons, this is the average price per barrel of the crude oil marker “West Texas Intermediate” (WTI) in Dollars of the United States of America per barrel (US$ / bl) and for natural gas is the average price for the natural gas marker "U.S. Gulf Coast Henry Hub" in Dollars of the United States of America per million British Thermal Units (BTU) (US$ / MMBTU). These averages are for the respective calendar month.

Po: For liquid hydrocarbons it is the base price of the crude oil marker, stated in Dollars of the United States of America per barrel (US$ / bl) and for natural gas it is the average price in Dollars of the United States of America per million British Thermal Units (US$ / MMBTU), indicated on Table 6.2.

Table 6.2
Base price Po

Gravity API of the liquid hydrocarbons produced	**Po (US$ / Bl) (Year 2007)**
> 15 and ≤ 22	$ 30.43
> 22 and ≤ 29	$ 29.34
> 29	$ 28.25
Discoveries located at over 300 meters of water depth	$ 34.77
Natural gas produced and exported – distance in a straight line from the Delivery Point to the Receiving Point in the country of destination, in kilometers	**Po (US$ / MMBTU)**
> 0 and ≤ 500	$ 6.52
> 500 and ≤ 1000	$ 7.60
> 1000 or LNG plant	$ 8.69

The base price **Po** will be adjusted annually on the first (1°) of January of each year, as per the following formula:

$$Po = Po_{(n-1)} \times (1 + I_{(n-2)})$$

Where:

n: Is the calendar year that begins and for which the calculation is made

n – 1: Is the calendar year immediately prior to the year that begins

n – 2: Is the calendar year immediately prior to the year (n – 1)

Po: Is the Po that applies to the new year as a result of the formula, rounding to two decimal points.

$Po_{(n-1)}$: The is the Po value for the immediately prior calendar year (n – 1).

$I_{(n-2)}$: Is the yearly variation, stated as a fraction, of the producer price index of the United States of America published by the Public Works Department of that country – PPI Finished Goods WPUSOP 3000 – between the en of calendar year n–2, and the

respective index for the end of the immediately prior year to the same year n–2 rounded to four (4) decimal points.

- In all cases of *Exploitation Period extensions* for an Exploitation Area, **contractors** will recognize and will pay the **ANH,** as production share fees, an amount equal to ten percent (10 %) of the production value of light liquid hydrocarbons at the Delivery Point, or five percent (5 %) in the case of non–associated natural gas or heavy liquid hydrocarbons, obtained by **contractors** as of the expiry date of the initial Exploitation Period duration and valued at the Inspection Point, after discounting the percentage for royalties.

- **Contractors** will transfer to **ANH**, free of charge, upon devolution of the area or termination of the contract when one or the other take place after the first eighteen (18) years of the Exploitation Period, all rights deriving from contracts under the project financing modality, such as leasing, construction, exploitation and reversal of assets, BOT ("Build, Operate and Transfer"), BOMT ("Build, Operate, Maintain and Transfer"), BOOT ("Build, Own, Operate and Transfer"), MOT ("Modernize, Operate and Transfer") and similar, that upon termination establish the obligation to transfer ownership of the assets, equipment and facilities to the **contractor**, when such contracts have been entered into for development of the respective area during the Exploitation Period.
- Investors are free to choose operators, although this should be approved by the ANH. Likewise, they are free to plan and execute activities, budgets and subcontracts under Colombian law.
- Technology transfer percentages are subject to the contracting period. During exploration, 0.15 % of investment will be transferred per phase. For the Exploitation Period, the transfer should be 0.015 % of the executed budget per year. The limit of these transfers is a minimum of US$ 100.000 per phase or year.
- **Contractors** have a right to assign or transfer all or part of their interests, rights and obligations, with prior authorization in writing from the **ANH**, to another company, consortium or temporary union having the financial capacity, technical competency, professional abilities and the legal capacity to operate in Colombia**.**
- Contractors should create a withdrawal fund to guarantee the availability of the financial resources necessary to continue the withdrawal program, which begins when an accrued 50 % of all reserves has been produced.

As seen above, this new oil contract clearly defines that there is competition in exploration, that any agent, private or public, is free of dispose of its resources without limitations of any type, and that ECOPETROL is just another agent in the oil business, which has to compete to obtain zones to look for oil and natural gas.

The new contract includes the royalty distribution changes that were approved by the national Congress in 2002.

It is too early to appreciate the advantages or disadvantages of the new system in attracting of foreign investment and for the operations of ECOPETROL.

6.2. Natural Gas Regulations

The natural gas sub–sector includes production, transportation, distribution, and marketing, activities that the *Comisión de Regulación de Energía y Gas* separated and introduced limitations into. for example, no distribution company may have more than a 25 % share of the domestic market. The most important effect was on ECOPETROL as it was forced to get rid of the gas pipeline network, as per the Law of 1997, and of its distribution and marketing to finales users. These decisions favored the private sector that came in to take over the transportation and distribution activities of that State–owned company.

Gas production gained strength in Colombia with the discoveries made in the early seventies by the TEXACO / ECOPETROL partnership in the Ballenas and Chuchupa fields in the Guajira. With the oil discoveries in the *Piedemonte Llanero*, a new source of associated natural gas appeared.

At December 31, 2005 the proven and non proven natural gas reserves were 7,311 GPC, 85 % of which was concentrated a in two regions: primarily in the *Costa Norte*, in the Chuchupa and Ballenas fields, and in the *Llanos Orientales* and *Piedemonte Llanero*, in the Apiay, Cusiana and Cupiaga fields.

6.2.1. Sector Structure Regulations

In 1994, Law No. 142 was issued defining the legal framework for providing public utilities. Within its scope, fuel gas (natural gas and LPG) was defined as a public service and the *Comisión de Regulación de Energía y Gas* (CREG) was created as the entity in charge of developing the regulatory framework and standards for *activities related to transportation, distribution and marketing of natural gas.*

According to Public Utilities Law No. 142, the CREG, through resolutions CREG – 057 of 1996 and CREG – 071 of 1998, established limits for both vertical and horizontal integration of the different activities relating to the sector, respectively.

In that measure, natural gas transportation is independent from natural gas production, marketing and distribution activities, thus generating open access to the national natural gas transportation system. This independence implies that natural gas transporters may not directly carry out production, marketing or distribution activities, or have any economic interest in companies whose purpose is to perform those activities or generate power. The companies whose purpose is to sell, market or distribute natural gas, may not be transporters or have an economic interest in any transportation company for the same product. Likewise, transporters may not give preferential treatment to any user of its services and, in particular, to the dealers, distributors or large consumers with whom they have relations that constitute economic interests or that might in any way influence price setting.

In the case of companies developing production, sale or distribution activities, they may in turn be dealers or participate in other branches of the sector without exceeding a percentage over their capital stock. For example, a natural gas production company may have shares in another company whose purpose is distribution of that commodity, as long as the individual share of the production company does not exceeding 20 % of the receiving entity's capital. In no case may more than 30 % of a natural gas distribution company's capital belong to natural gas production companies. Similarly, *natural gas producers and/or transporters may not directly enter the natural gas power generation business, but may have up to twenty–five percent (25 %) of the capital stock in a company that performs that activity.*

In terms of the directions for the horizontal limitation, it establishes that by January 1, 2015, no distribution company may attend directly or indirectly to over 30 % of the users in the distribution market.

No person or enterprise may have more than 25 % of the trade volume on the commercialization market to finales users, whether regulated or not, excluding the gas sold for power generation, raw materials for the petrochemical industry and the producer's self–consumption, which will have no market share limits. Natural gas producers of may not market their production jointly with other partners of the respective exploration and production contract (partnership contract), nor may they jointly market the production of two or more different exploration and production contracts.

In the case of ECOPETROL, it left the responsibility for centralized execution of the *Plan de Masificación de Gas* and also for making all investments in basic infrastructure, particularly for building gas branches, to devote itself solely to oil and gas exploration and exploitation, which is its corporate purpose. Under this new institutional arrangement, the transportation assets were separated from ECOPETROL's equity and capitalized to the *Empresa Colombiana de Gas* (ECOGAS), created by Law No. 401 of 1997 for gas transportation.

In the same sense, natural gas distribution companies began to perform their activities under the legal regime of Law No. 142 of 1994, with no need for a concession contract with the nation. This exception is only applicable to the service areas that are solely for natural gas distribution through pipe networks.

6.2.2. Natural Gas Production

Regulation of production activities began in 1995. Resolution CREG–023 of 2000 established that prices at entry point to the National Transportation System will be determined freely, subject to supervised freedom, by producers in all fields of the country, except for those located at La Guajira (Ballenas), Opón and Cusiana. By resolution on September 10, 2005, gas prices would not be subject to any ceiling, providing conditions for competition are established as set forth in Law No. 142 of 1994.

The price regime for gas produced in the Guajira is governed by what is set forth in Resolution CREG–039 of 1975 according to which prices are adjusted proportionally to variations in fuel oil for export FOB / Cartagena during the last semester.

For Cusiana, an arrangement was applied that seeks to provide incentives for gas exploitation with ensured profitability for the producer. This is explained thus: when the natural gas treatment plant capacities are below 110 million of cubic feet per day, the price will be the current one (US$ 0.74 per million BTU). When the installed capacity is greater than 110 million cubic feet per day and less than 180 million cubic feet per day, the price will be OR$ 1.10. If capacity surpasses 180 cubic feet per day, the price will be liberated for producers.

The current regulations (Resolution CREG–023 of 2000) establishes prices at entry point to the National Transportation System, which include the costs of developing and producing the field, the gas collection systems, the treatment, dehydration and compression facilities, the gas quality measurement equipment, and the connection cost between the collection systems, that is between producing field and an entry point to the National Transportation System.

These prices will be determined freely subject to supervised freedom by producers in all fields of the country, except for the ones in La Guajira (Ballenas), Opón and Cusiana.

For the free natural gas produced in the Guajira and Opón fields, the Maximum Regulated Price will be the results of applying the following formula:

$$PMR_t = PMR_{t-1} \times \frac{\overline{INDICE_{t-1}}}{\overline{INDICE_{t-2}}}$$

Where:

PMR_t = Maximum Regulated Price to apply during the following semester (t), stated in Dollars per million BTU (US$ / MBTU).

PMR_{t-1} = Maximum Regulated Price for the last semester (t – 1)

$\overline{INDICE_{t-1}}$ = Arithmetical average of the index for the last semester (t – 1)

$\overline{INDICE_{t-2}}$ = Arithmetical average of the index for the next to last semester (t – 2)

$INDICE$ = New York Harbor Residual Fuel Oil 1.0 % Sulfur LP Spot Price, as per the series published by the Department of Energy).

For its part, the price of gas produced in Cusiana and Cupiagua, in conditions to be injected at the Points of Entry to the National Transportation System, is based on an arrangement that seeks to incentivise gas exploitation with guaranteed profitability for producers. This arrangement establishes a price of US$ 1.40 / MBTU if the capacity of the associated gas treatment facilities that enable injecting it into the National Transportation System is less than or equal to 180 MPCD. If the capacity surpasses 180 MPCD, the price will be free for producers with no ceiling.

Making this natural gas price policy underwent a heavy debate that involved ECOPETROL, l CREG experts, the Ministry of Mines and Energy, oil companies, Congress and professional unions such as the *Asociación Colombiana de Ingenieros* (ACIEM). The government and representatives of the industry defended a free price policy with the argument that this would incentivise production, while the CREG and ACIEM argued that since the sector is practically structured as a monopoly, it was mandatory to have regulated prices in order to avoid abuses of dominant position. In the end, the position of the CREG prevailed, with regulated prices for gas from Cusiana if production is lower than 180 MMPC and free if it is higher. But for new reservoirs that are discovered, the price is free. This measure was decided as a way to incentivise new exploration to improve the conditions of competition in the sector.

To date no new reservoirs of natural gas, whether free or associated with oil, have been discovered. In August the company Drummond, which exploits coal reservoirs in the department of Cesar, announce the existence of natural gas reserves of near two trillion cubic feet associated with coal. They hope that the government will give them as the dealers in order to begin extraction. In this case, natural gas reserves would grow by one third.

6.2.3 Natural Gas Transportation

A transportation system is understood as a set of gas pipelines located within national borders, excluding connections and dedicated gas lines that link the country's gas production centers to city doors, distribution systems, non–regulated users, international interconnections, or storage systems. Transporters will be understood as all persons who perform this activity from the entry point of the transportation system to the point of reception or delivery, and who have decision–making power over free access to the transportation line or to a transportation sub–system, provided it is technically possible and that they sell the transportation service to dealers or large consumers via transportation contracts, taking a volume risk when selling their capacity.

Transporters are subject to free competition rules and should offer several contractual modalities that meet the particular needs of their consumers.

The national network of gas branch lines includes two large systems and six smaller transportation companies for a total of 5,890 kilometers. The two large systems belong to PROMIGAS (private) in the *Costa Norte* region, with 2039 kilometers, and TGI (public) in the interior of the country, with 3233 kilometers. The six remaining gas pipelines belong to

Transmetaños, Transoriente, *Gasoducto de la Tolima*, Progasur, Transoccidente, and Trancogas, all private with small public shares except for Progasur, with an extension of 618 kilometers.

Part of the natural gas network in the interior came from the ECOPETROL oil pipelines that were adapted for gas transportation. Other gas pipelines were built directly by ECOPETROL and three main gas pipelines with their branches were assembled by the private industry through the BOMT system. The first two types of gas pipelines were transferred to ECOGAS in 1997 and those of the BMOT type were transferred in 2007.

Regulatory Framework

The CREG designed a new regulatory regime, approved through Resolution CREG–001 of 2000.

The purpose of the transportation cost remuneration methodology and charge structure is to facilitate competition among producers, dealers, large consumers, and distributors; to facilitate the development and penetration of gas under conditions of efficiency; to efficiently allocate transportation system costs; to guarantee uniform treatment for all users and maintain regulatory stability.

The regulatory regime is based on a system of spatial charges for distance, which fully reflect the average costs for each component of the system and preserve the localization signals established by Resolution CREG–057 of 1996.

To this end, the CREG adopted a Long–term Average Cost methodology calculated through the following criteria:

- Useful life of 20 years for all assets
- Projection horizon of 20 years (demands, AOM)
- Basic investment
- Cost of Invested capital
- Regulatory use factor
- Anticipated demands of volume and capacity
- Overhead, Operation and Maintenance

Payment of the transportation service for the National Transportation System is based on a progressive charge setup, determined as the sum of the charges on each length of gas pipeline between the gas entry point to the National Transportation System to the gas exit point for each sending company, according to the methodology that was already established.

The *Unified Transportation Regulations* (RUT) establishes a set of working and trade regulations for the following purposes with regard to the National Transportation System:

- To ensure open access to the National Transportation System without discrimination

- To create the conditions and instruments for efficient, economic, reliable operation of the National Transportation System.
- To facilitate the development of gas supply and transportation markets.
- To standardize gas industry practices and terminology.
- To establish quality standards for transported gas.

Development of the *Unified Transportation Regulations* began in mid 1995 and concluded with the approval of Resolution CREG–071 of 1999.

From the institutional viewpoint, the most important novelty of the Transportation Regulations is having defined the advisory functions of the *Consejo Nacional de Operación* (CNO) for gas. It states that the *Consejo Nacional de Operación* will have the following duties:

- To present the CREG with proposed amendments to the Transportation Regulations.
- To recommend that the CREG adopt unified protocols for data generation, delivery, storage, capture, and search.
- To give the CREG recommendations regarding the part that pertains to the Variance Compensation Matrix.
- To propose the Transporter's Manual. To advise the CREG on conflicts arising among agents due to Transportation Regulations enforcement.
- To propose framework balance agreements for agents.
- To propose schedules for synchronized supply and transportation re–nomination.
- To establish its own regulations.
- All others stated by the CREG in the Transportation Regulations.

According to what is stipulated in Law No. 401 of 1997, the Ministry of Mines and Energy will preside the *Consejo Nacional de Operación* for natural gas. Taking into account the functions of this agency, its contributions are of fundamental importance to develop essential aspects of the Transportation Regulations, such as operating the Electronic Operating Bulletins, developing the Transporter's Manual, designing the compensations matrix, and revising the Transportation Regulation itself.

The natural gas transportation regulations are based on the concept of charges per distance, which is criticized by some because it works against the zones that are furthest from natural gas reservoirs. Some say that it would be more advisable to adopt a stamp charge, as in the power sector, that is, a charge for transportation that does not depend on the distance, that is unified regardless of the zone or region of the country where the fuel is consumed, which is equitable because all regions have the same possibilities.

6.2.4 Natural Gas Export

The regulations demand certain economic conditions to supply and transport gas for export:

- The price of gas for export is freed, while respecting the principle of neutrality established in the Law.
- There is free access and interconnection throughout the entire length of the gas pipeline or group of gas pipelines utilized for export, both when located within national borders and beyond them.
- Gas pipelines built to export gas are paid for, in the lengths located within national borders, through charges established by the transportation company under the regulated freedom regime, subject to the general methodology that is applicable to the National Transportation System.
- The CREG will prohibit export if the importing country does not guarantee the principle of free access, applicable to the National Transportation System, throughout the entire length of the gas pipeline or group of gas pipelines utilized for export, both when located within national borders and beyond.

In cases where international demand creates a supply limitation that gives way to gas rationing, that demand will be given the following treatment:

- When international demand is covered by a “Pay per Contract” or “Pay per Demand” type supply contract signed with a Producer–Dealer or a Dealer at least six (6) months prior to the supply restriction, that demand will receive the same treatment as is applicable to domestic demand, as established by the CREG for cases of Scheduled Gas Rationing or Emergency Gas Rationing in Colombia.
- When international demand is being covered in the development of a supply contract that does not meet the conditions stated above, or is being covered through the secondary market, and the respective gas is required to cover the transitory supply restrictions in the country, international demand will not be supplied during the transitory restriction.

In order to ensure, as far as possible, domestic supply for users in Colombia who are physically or financially capable of being attended and whose demand has not been or cannot be met, the Commission may forbid gas exports in the following events:

- When there are insufficient reserves of natural gas
- When there are transitory restrictions on supply and/or transportation
- When there are feasible requests for gas supply that are unattended to

Insufficient reserves of natural gas produced in Colombia for export will be understood to exist when the R / P Factor is less than six (6) years.

R / P Factor = Proven reserves remaining / Total domestic production

In conformity with what is established in Art. 67.7 of Law No. 142 of 1994 and any other duties assigned by Law, the R / P Factor will be calculated annually by the Ministry of Mines and Energy, on January 31 of each year. This calculation will use the total domestic

gas production of the immediately prior calendar year and the proven reserves remaining at December 31 of that year.

If the result of the R / P Factor is less than six (6) years, natural gas exports are forbidden. This prohibition will cover the total amount of gas exported by all export agents. Additionally, if there are statements of unattended natural gas supply requests, provided the R / P Factor is over six (6) years, the *Superintendencia de Servicios Públicos Domiciliarios* will impose the appropriate penalties on Producers–Dealers who refuse to provide the service.

The prohibition on gas exports will be revoked when the condition giving rise to the prohibition has been overcome, and in any case when none of the conditions stated above are forthcoming.

6.2.5. Natural Gas Distribution / Marketing Regulations

There are two regulatory approaches for the distribution business: the first is based on tariff formulas, maximum prices and methodologies established by the CREG; the second is based on maximum prices obtained in competitive bidding procedures, with exclusivity rights in specific geographic areas.

There are presently nearly 27 natural gas distribution companies with networks in the country, six of which provide service under exclusive concession contracts, framed within what is established in Law No. 142 of 1994, and a large part of the remaining enterprises provide the service under non–exclusive concession contracts granted by the Ministry of Mines and Energy prior to the issuance of Law No. 142 of 1994.

In 2005, the 27 distribution companies attended to more than 400 populations, out of a total of nearly 1000, for a coverage of 3,330,000 users, 33 % of the total number of homes in the country.

The Average Maximum Unit Charge for use of the distribution network of (Dt) is calculated based on the Long–term Average Cost methodology. Maximum approved charges have a duration of five (5) years, unless before the end of five (5) years an agreement is signed between the enterprise and the CREG to modify or extend it, or should any of the other events foreseen in Law No. 142 of 1994 occur to modify or revoke the tariff formula.

Exclusive Service Areas:

The Commission set the general criteria for contracting exclusive service zones for gas distribution, through Resolution CREG–014 of 1995. These exclusive service areas are under a concession modality established in the Public Utilities Law and are granted through public bidding contests. There are currently six exclusive service areas, as shown in Table 6.3.

Table 6.3 – Exclusive service areas

AREA	COMPANY:
Valle	*Gases del Norte del Valle E.S.P.*
Quindío	*Gases del Quindío S.A. E.S.P.*
Caldas	*Natural Gas del Centro S.A. E.S.P.*
Risaralda	*Gases del Risaralda S.A. E.S.P.*
Center and Tolima	*Grancolombiana de Gas S.A. E.S.P.*
Cundinamarca and Boyacá	*Gas Natural Cundiboyacense S.A. E.S.P.*

Natural Gas Final User Price

Resolution CREG–057 of 1996 established the General Tariff Formula, which determines the Average Maximum Unit Charge that is applicable to finales users. Distributor–Dealers should guarantee that in any year, the average tariff per unit of natural gas supplied to connected users is equal to the average maximum per unit (Mst), calculated according to the following general formula:

$$Mst = Gt + Tt + Dt + St + Kst$$

Where:

Gt = average maximum unit cost in $ / m3 for natural gas purchased from mains during year t.

Tt = Average Maximum Unit Cost in $ / m3 of transportation in mains in year t.

Dt = Average Maximum Unit Charge in $ / m3 allowed to distributors for use of the network in year t. (This charge does not include the connection)

St = maximum unit charge or margin in $ / m3 of commercialization in year t.

Kst = correction factor in $ / m3 in year t (that may be positive or negative) equal to zero in the initial year.

The dealer should structure the tariffs to residential consumers with the following monthly charges:

a) *A fixed charge ($ / month),* that reflect the economic costs involved in guaranteeing the continued availability of the service to users, regardless of use levels.

b) *A charge per unit of consumption ($ / m3*), that always reflects both the level and structure of economic costs that vary with consumption levels, and the demand for the service.

The charges per unit of consumption are structured in such wise as to clearly state that the basic or subsistence consumption is 20 m3.

6.3 Liquefied Petroleum Gas (LPG)

6.3.1 Structure of the Industry

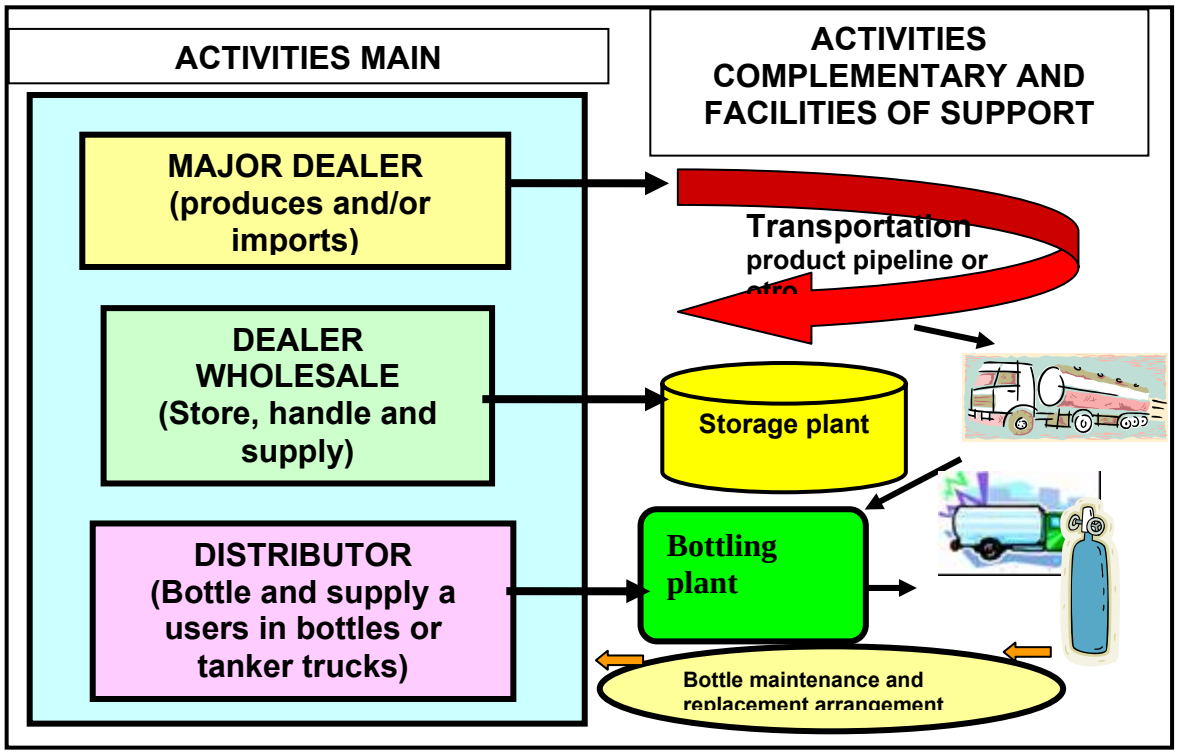
LPG is only produced by ECOPETROL in its refineries or associated gas treatment plants and sold to the wholesale enterprises, who sell it to distribution companies.

Except for LPG production, the rest of the LPG chain is totally in private hands.

Resolution 074 of the CREG reflected the industry's structure as it was in 1996 and continues to be currently, with important changes in the bottle maintenance and replacement setup. Three segments of activities with their respective enterprises were defined as follows: *Major Dealers*, who produce or import LPG for wholesale supply to wholesale dealers; *Wholesale dealers,* companies that store, handle and supply LPG in bulk to distributors; and *Distributors:* companies that handle, bottle and supply LPG in the liquid phase to users, through bottles and stationary tanks, or through a local network in the gaseous phase. Figure 6.1 illustrates the currently regulated industrial structure.

The sector's structure is of the type with a single producer (ECOPETROL) and several dealers and distributors who can compete amongst themselves. LPG is supplied to wholesale dealers by ECOPETROL, which is a *de facto* monopoly segment and is regulated as such.

Figure 6.2 – Regulated Industrial Structure



Wholesale marketing has 12 dealers and 16 dealer–distributors (for a total of 28 wholesale dealers), mostly located at the ECOPETROL transportation terminals. This means that although in principle it is a competitive activity, there are physical barriers to entry, making it oligopoly. Now, if it is true, as stated by the CREG and the SSPD, that those wholesale dealers are members of distribution companies of a same business group, in practice there would be a certain assigning of markets.

With regard to relations among agents, one failing in the current regulations is their weak contractual demands to formalize relations among different agents of the chain (both among agents of different segments and within the same segment, as is seen in the case of distribution versus bottle transportation). This has contributed to a diluting of responsibilities in terms of quality and safety in service provision.

Leaving ECOPETROL outside of the regulatory scope as a producer is also contradictory, according to a study by the *Comisión de Regulación de Energía y Gas* (document 046 of 2005),[1] which points to the dominant position that ECOPETROL has in LPG production and transportation to meet domestic demands. This highlights the need for suitable regulations to prevent abuses of dominant position.

On the other hand, excluding production from the regulatory scope leaves aside the possibility of enforcing article 23 of Law No. 142 of 1994 through which the *Comisión de Regulación de Energía y Gas* can forbid supplying fuel gas LPG abroad *"when there are*

[1] Document supporting Resolution CREG 072–2005.

users in Colombia that it is physically and financially possible to attend to, but whose demand has not been met at the tariffs resulting from the formulas approved by the commissions". This point is even more important considering that ECOPETROL is not obliged to ensure liquid fuel supply since the creation of the *Agencia Nacional de Hidrocarburos* (ANH).

Currently there are no limits on horizontal and vertical integration of the business. Without prejudice to the above observation, limiting vertical integration is not advisable given the LPG market situation, where there is a displacement of dense markets towards geographically peripheral markets with higher costs and greater risks, as detailed in part number 2.3.4.

6.3.2 Distribution

This activity includes storage, bottling and distribution of bottles to final users through vehicles and outlets. It also includes distribution in tanker trucks for users with stationary tanks, and distribution via networks.

It is permissible for bottling to be done by wholesale dealers and for transportation to be contracted out to third parties, by the distributor is liable for any damages incurred.

In this context, the main assets relating to distribution are the bottling plants, the vehicle fleet and backup bottles needed to rotate bottles on the market served and for the required maintenance and replacement of bottles received from users.

The LPG distribution business is potentially competitive and in fact it is. To what degree that competition occurs is something that is not sufficiently clear, especially as regards local markets. However, the characteristics relating to the moderate size of the economies of scale in the distribution processes (bottling, bottled and bulk transportation, outlets, and working capital under the current universal fleet arrangement) and the type of flexible distribution, that is, not bound to networks with fixed infrastructure (except in the case of LPG distribution through networks), clearly indicate that this is an activity with a great potential for competition, of course limited by the characteristics of the markets served, such as density, dispersion, and users' level of consumption.

6.3.3 LPG Tariff Regulations

The tariff formulas for the new regulations entered into effect in 1998. Below is an analysis of the general formula and of each segment, showing regulatory evolution and changes through time.

The general formula for LPG price setting for the public pertains to the addition of costs and maximum regulated margins for the links in the chain (Major Dealer, Dealer and Distributor), also differentiating the Major Dealer's transportation components and the safety margin for bottle maintenance and replacement:

$$M = G + E + Z + N + D$$

M	*Tariffs to the public for Liquefied Petroleum Gas (LPG) ($ / gallon).*
G	*Maximum revenues per product for Major Dealer ($ / gallon).*
E	*Maximum Major Dealer revenues for transportation ($ / gallon).*
Z	*Safety margin ($ / gallon).*
N	*Wholesale dealer's margin ($ / gallon).*
D	*Distributor's margin ($ per gallon).*

Below we examine each of the above components.

- *Tariff Formula for Major Dealer*

This formula consists of a 36–month average international price for the main gases making up the LPG mix (propane and butane) at the US Gulf Coast, affected by transportation costs for LPG imported to Cartagena and exported by site of destination. These costs are averaged over the entire amount of LPG produced nationally plus imports: [2]

$$G = \frac{TRM}{42 * 36} * \sum_{i=1}^{36} \left[(1-\alpha) * PP_i + \alpha * PB_i + \frac{QI_i * TI_i - QE_i * TE_i}{(QN_i + QI_i)} \right]$$

G = Maximum revenues per Major Dealer product applicable after calculating the formula ($ / gallon).

TRM = Exchange rate that is representative of the US Dollar market versus Colombian Pesos at February 15 of the year in which the formula is applied, reported by the *Banco de la República*.

42 = Number of gallons per barrel.

36 = Number of months.

α = Average contents of butanes and heavier gases (C4+) in domestic LPG, as defined by the CREG.

$\sum_{i=1}^{36}$ **=** Sum of the 36 months immediately prior to the month before the month to which the formula is applied.

PP_i = Monthly average of international propane prices per barrel, using the Gulf Coast Price Indicator, source – Platt's US Marketscan (US$ / Bl), for month **i**.

PB_i = Monthly average of international butane prices per barrel, as per the Gulf Coast Price Indicator, source – Platt's US Marketscan (US$ / Bl), for month **i**.

QI_i = Number of barrels imported by large LPG dealers in month **i** (barrels).

TI_i = Monthly average of the transportation cost per barrel of imported LPG, from the place of LPG purchase to Cartagena in month **i** (US$ / Bl), according to

[2] As per Resolution CREG 144 of 1997 and CREG 035 of 1998.

transportation invoicing by large LPG dealers.

QN_i = Number of barrels of LPG produced in the country by the Major Dealers in the month i (barrels).

QE_i = Number of barrels exported by the Major Dealers of LPG in the month i (barrels).

TE_i = Monthly average value of transportation per barrel of exported LPG from Cartagena to place of LPG sale in month i (US$ / Bl), according to transportation invoicing by large LPG dealers.

Considering the condition of LPG as a commodity that is tradable on international markets, the CREG adopted as a reference price an international price indicator referenced to the Gulf Coast (Mont Belvieu, source – Platt's US Marketscan (US$ / Bl).

CREG's Current Proposal

The CREG proposal contained in document 046 of 2005 and in the decision on consultation 072 of the same year present a single formula structured under the principle of export parity, linked to propane futures contracts in NYMEX for a six–month horizon, reviewable every semester in January and July.

That formula takes the NYMEX reference price, weighted at six months, and subtracts the cost of transportation from the production site to Cartagena and shipping costs at the Colombian port.

In this arrangement, the Major Dealer disappears as a figure and dealers are enabled in the future to import or export products if they wish to. Of course, the formula will need adjustment to link it to the import parity criterion if deficit circumstances arise, as observed by the Commission. Likewise, the Commission announced that price regulations would also be reviewed if conditions for other agents to enter the import market are given, one of which is to ensure free access to the transportation system and port facilities.

In synthesis, the CREG proposal looks suitable under the circumstances the country faces in terms of LPG supply – demand balance, and ECOPETROL control of the transportation system.

- *Tariff formula for transportation via pipelines*

The cost of transporting LPG through pipelines, incurred by the Major Dealer, is presently paid for through a stamp charge paid to ECOPETROL.

This stamp implies a sizeable crossed subsidy between markets near production centers and remote markets.

The CREG's proposal to pay for LPG transportation through pipelines, stated in Resolution 012 of 2007, includes a distance seal for determining maximum charges. Depending on

how strong or weak it is defined, it will have equally greater or lesser impacts on LPG competitiveness in markets far from the sources of production.

To define charges, a utilization factor of 0.75 will be used for existing pipelines and 0.5 for new ones, should actual utilization be below these amounts.

The proposed transporter model is under contract ("carriage contract"), through which service is guaranteed to those having a contract with the transporter with predefined delivery periods. This type of model also implies that infrastructure expansion only occurs when transporters have a certain guarantee of recovering the investment incurred.

- *Safety Margin*

The safety margin formula consists of determining the value per gallon sold making it possible in one year to gather the funds needed for the bottle / stationary tank maintenance and replacement program, depending on needs and the goals established by the CREG, using the following formula:

$$Z = \frac{(1 + IVA) * F_i}{V_{t-1}}$$

Z = Safety margin ($ / gallon).

IVA = Value Added Tax.

F_i = As determined by the CREG to cover the needs reported by the fiduciary, referred to in article 29 of Resolution 74 of 1996, issued by the CREG, for bottle and tank maintenance, reparation and replacement, a global policy and safety valve ($).

V_{t-1} = Total volume of LPG supplied by Major Dealers from February 1 of the year immediately prior to application of the formula, until January 31 of the year to which the formula will apply (gallons).

The safety margin went from US$ 31.35 per gallon in 1998 to US$ 210 in December 2005 (current Pesos).

- *Dealer Margin*

Wholesale dealer margins are paid for through a maximum charge that is affected by the storage capacity and an updating index:

$$N_t = N_0 * C_a * A$$

N_t = As defined in article 5, but only for the effects of this article, **Ca** will be equal to one (CREG 035 – 98).

N_0 = Basic margin for wholesale dealers in Pesos per gallon.

C_a = Storage factor
A = Updating factor

The minimum storage capacity established in Resolution CREG 074 of 1996 is 25 % of the monthly handled volume, and it is necessary to maintain, an average inventory of at least 25 % of the monthly average volume handled in the past twelve months, in addition to the monthly average supplied to distributors over the same period.

- *Distributor margin and tariff regime for price setting for final users*

There are currently tariff formulas to determine the distributors' margin depending on the type of vessel in which the service is supplied (tanker truck or bottle depending on size). The formulas consist of a margin stated in Pesos per gallon, which is adjusted with a price index established in the same regulations. The formula is stated as follows in the case of tanker trucks:

$$DC_t = A * DC_0$$

Where DCt is the distribution margin resulting from updating the basic charge DCo with the factor of prices ***A***.

Similarly, Resolution CREG – 044 of 2001 set formulas for the distribution margin in 30 and 80 pound bottles that sought to substitute the 40 and 100 pound bottles through the replacement plan.

These maximum margins were calculated based on the studies done by the *Comisión de Regulación de Energía y Gas*, which estimated efficient costs for activities in the service chain.

To set prices for final users, formulas were established that consist of taking the wholesale dealer's LPG in plant price and multiplying it by the bottle capacity factor, adding the respective distribution margin for the vessel used. The capacity factor was changed by Resolution CREG 010 of 2001, in order to reflect the makeup of the gas mix and is a variable that may be modified by virtue of changes in said makeup as reported by Major Dealers before January 31 of each year. These capacity factors have been updated in later resolutions.

Each of the prices resulting from applying the formulas for bottles, is the maximum amount that users should pay for a net amount of LPG at 45 kg (100 pounds), 18 kg (40 pounds), or 9 kg (20 pounds), respectively. The total weight will be equal to the amount of LPG indicated, plus the weight or tare of the bottle.

When price setting for final users, the following rules are observed:

a) The user prices that result from applying the established formulas apply to localities where Major Dealers deliver the product.

b) For localities other than those stated above, LPG prices are set by distributors, adding the cost of transportation to the prices resulting from applying the formulas established for the closest locality in which Major Dealers deliver the product.

c) LPG distribution prices within the urban perimeter of Cartagena, Barranquilla, Santa Marta, Riohacha, Sincelejo, Montería, Neiva, Bucaramanga, Villavicencio, Barrancabermeja, and Floridablanca, are set freely by distributors under the supervised freedom regime. Under this regime, the CREG has the power of periodically review the list of localities where this tariff regime operates, to include or exclude localities.

For household delivery through stationary tanks and individual meters, a fixed monthly charge per user was established as fixed customer costs.

As can be seen, the current regulations introduced the supervised freedom regime in cities where gas penetration had been consolidated. After almost ten years from Resolution 083 of 1997, progress in extending natural gas consumption has been considerable and the conditions needed to change to a complete supervised freedom regime are given.

6.4 Oil Product Price Regulation

All oil–derived products, except for the prices of gasoline, diesel oil and LPG, are not subject to regulation but to the free play of market prices.

The gasoline and diesel oil price–setting policy is the responsibility of the Ministry of Mines and Energy, which by law establishes the price methodology based on the import price parity and opportunity costs, in order to develop a general price system that will recognize the reality of markets international. Therefore, as the basis for setting domestic fuel prices within the country, it takes the international price per gallon (US Gulf Coast FOB price) adding the cost of shipment and transportation insurance and all other import costs (duties).

This methodology seeks to send the right signals to users and agents of the distribution chain regarding the actual and opportunity costs of production and marketing those fuels, in a search to promote the expansion of infrastructure for production, sale and marketing of those commodities, and at once send a signal of stability to investors and incentivise them to meet the domestic demand with locales or imported energy products.

Accordingly, as of January 1, 1999, Resolutions No. 82438 and 82439 of December 23, 1998, began to apply, laying the basis for calculating the price structure for regular motor gasoline and ACPM at a national level.

According to said Resolutions, the price structure for those fuels includes the following components:

6.4.1. Price Structure for Regular Motor Gasoline

Producer Revenues for Regular Motor Gasoline

Calculated by the *Unidad de Planeamiento Minero–Energético* (UPME) on the second day immediately prior to the first calendar day of each period (t), defined as per the following formula:

$$IP\ (t) = \{[Pr\ FOB + FL + SE + IM] * TRM\} + TO + TPC + TI$$

Where:

IP (t): Producer revenues in effect for the period t.

Pr FOB: Arithmetical average of the quotes in Index UNL 87 U.S. Gulf Coast Waterborne in the PLATT's publication of Standard & Poor's, published during the past thirty (30) calendar days immediately prior to the calculation date, stated in Dollars per gallon (US$ / Gal).

FL: The cost of sea or land shipment and all other costs incurred to transport a gallon of gasoline from the US Gulf Coast to the local import port, stated in Dollars per gallon (US$ / Gallon). This amount will be the result of the following formula:

$$FL = [Ws / (b* 42)] * (STR / 100)$$

Where:

Ws: Reference shipment value for the route Houston–*Pozos Colorados* published annually by the Worldwide Tanker Nominal Freight Scale "Worldscale" in effect for the month immediately prior to the period t, stated in Dollars per metric ton.

STR: Arithmetical average of the quotes published during the past thirty (30) calendar days immediately prior to the calculation date (as said date is defined in the first paragraph of this article), of the market correction factor for shipment of clean tankers of 30,000 Metric tons for the CARIB / USG route, in the PLATT's publication of Standard & Poor's, stated in Worldscale (WS Assess) units.

b: Conversion factor from metric tons to barrels. In the case of Colombian regular motor gasoline, this conversion factor is 8,535 at 60° API.

42: Conversion factor from barrels to gallons.

SE: The cost of maritime or terrestrial insurance and all other costs incurred to transport a gallon of gasoline from the US Gulf Coast to the local import port, stated in Dollars per gallon (US$ / Gallon), which will be calculated according to the following formula:

SE = S * Pr FOB

Where:

S: The multiplier factor used to calculate insurance (SE). The factor in force when resolution takes effect will be 0.000387.

This multiplying factor will be reviewed on a yearly basis, from January 1, 2000. for each year, the Ministry of Mines and Energy will set the value of S based on the average quotes of at least three (3) international insurance companies, whose long–term Dollar debt score is equal to or greater than BBB– of Standard & Poor's, or that have an equivalent grade score issued by another international risk qualification agency.

IM: The cost of quality inspections at loading and unloading ports, stated in dollars per gallon (US$ / gallon). This cost will be US$ 0.000286 per gallon from the date this resolution takes effect.

This amount will be adjusted on a yearly basis on from January 1, 2000, based on the costs of quality inspection and handling at port as in effect on each adjustment date.

TRM: The "Representative Market Rate" in effect on the day immediately prior to the "calculation date" as certified by the Bank Superintendent.

A: The amount equal to thirty–two (32 %) percent of duty payments on gasoline imports, stated in Pesos per gallon, calculated according to the general tariff established in article 1 of Decree Law No. 2317 of 1995 or in any regulations amending, adding to or complementing it, applied to the tax base established in the provisions that govern the customs valuation as per what is set forth in Decree No. 1909 of 1992 and any other regulations that complement or modify it.

TPC: The value of the tariff payment for the *Pozos Colorados* Barranca product pipeline that connects the *Pozos Colorados* port with Galán, stated in Pesos per gallon.

The TPC value will be thirty–one Pesos and forty cents per gallon ($ 31.4 / gallon). That amount will be adjusted annually by the Ministry of Mines and Energy in conformity with what is set forth in the Oil Code and any other applicable regulations.

TI: The value for payment of the applicable stamp tax, stated in Pesos per gallon and calculated according to the general tariff established in the norms that regulate the matter, or in any norms that the amend, add to or complement them, applied to the tax base established in the provisions governing the matter.

t: The time period between the first calendar day of each calendar month and the last calendar day of the same calendar month.

Maximum Sales Price to Wholesale Distributors

The maximum sales price, stated in Pesos per gallon, to be charged of wholesale distributors by local refiners or importers, for the period t, for sales of regular motor gasoline at the door of the local refinery or at the local import port, will be the result of applying the following formula:

$$PMI\ (t) = IP\ (t) + PI + PG + Tt$$

PMI (t): Will be the Maximum Sales Price to wholesale distributors for the period t.

IP (t): Producer Revenues

PI: The amount paid on the sales tax, stated in Pesos per gallon, established according to the tariff set and applied to the tax base established in the Tax Statutes in effect and any regulations complementing or amending them.

PG: The amount paid for the Global Tax on Regular Gasoline according to the amounts set for that tax in Law No. 383 of 1997.

Tt: The value to be paid for the Stamp Tariff on fuels transportation, stated in Pesos per gallon.

Maximum Sales Price in Wholesale Supply Plants

The Maximum Sales Price for a period t, stated in Pesos per gallon, that wholesale distributors will charge retail distributors for the regular motor gasoline sales at the wholesale supply plant, being the result of applying the following formula:

$$PMA\ (t) = PMI\ (t) + MD$$

PMA (t): The Maximum Sales price in Wholesale supply plant.

PMI: The Maximum Sales price to the Wholesale distributor

MD: The Wholesale Distributor's Margin, stated in Pesos per gallon, which is set at seventy–five Pesos per gallon ($ 75.00 / gallon). This amount includes operating expenses related to the business of distributing regular motor gasoline, including loss by evaporation and additive costs.

This amount will be adjusted on a yearly basis as of the January 1, 2000, based on the percent variation of the Consumer Price Index for the year immediately prior to the date of the adjustment.

A supervised freedom regime was also established to enable public sales prices per gallon to be set freely by each retail distributor, for the capital cities of the following departments:

Antioquia, Atlántico, Bolívar, Boyacá, Caldas, Cauca, Cesar, Córdoba, Huila, Magdalena, Meta, Nariño, *Norte de Santander*, Putumayo, Quindío, Risaralda, Santander, Sucre, Tolima, and Valle, and for the Federal District of Bogota. In these cases, contributions to the *Fondo de Protección Solidaria* (Soldicom), are estimated applying the percentage.

6.4.2. Diesel Oil Price Structure (ACPM)

Producer Revenues for ACPM

The producer revenues for ACPM sales, stated in Pesos per gallon, will be the result of applying the following formula:

$$IP(t) = \{[Pr\ FOB + FL + SE + IM] * TRM\} + TO + TI$$

The Producer Revenues in effect for each period t will be calculated by the *Unidad de Planeamiento Minero–Energético* (UPME) on the second day immediately prior to the first calendar day of each period t (the "calculation date").

Where:

IP (t): The producer revenues in effect for the period t.

Pr FOB: The average quotes for index number 2 U.S. Gulf Coast Waterborne in the PLATT's publication of Standard & Poor's, published during the past thirty (30) calendar days immediately prior to the date of [. . .], stated in Dollars per gallon (US$ / Gal).

FL: The cost of the sea and land shipment and all other costs incurred to transport a gallon of ACPM from the US Gulf Coast to the local import port, stated in Dollars per gallon (US$ / Gallon). This amount will be the result of the following formula:

$$FL = [Ws / (ß*42)]*(STR / 100)$$

Where:

Ws: Referential shipment value for the Houston *Pozos Colorados* route published annually by the Worlwide Tanker Nominal Freight Scale "Worldscale" in effect for the month immediately prior to the period t, stated in Dollars per metric ton.

STR: Arithmetical average of the quotes published during the past thirty (30) calendar days immediately prior to the calculation date of the market correction factor for shipment of clean tankers with 30,000 Metric tons on the CARIB / USG route, from the PLATT's publication of Standard & Poor's, stated in Worldscale (WS Assess) units.

ß: Conversion factor from metric tons to barrels. In the case of ACPM, this factor is 7.491 to 34° API.

42: Conversion factor from barrels to gallons.

SE: The cost of sea or land shipment insurance and all other costs incurred to transport a gallon of ACPM from the US Gulf Coast to the local import port, stated in Dollars per gallon (US$ / Gallon), to be calculated according to the following formula:

$$SE = S * Pr\ FOB$$

Where:

S: The multiplier factor used to calculate insurance (SE). The factor in force from the date the Resolution takes effect will be 0.000387.

This multiplying factor will be reviewed annually, as of January 1, 2000. For each year the Ministry of Mines and Energy will set the amount of S, based on the average of quotes from at least three (3) international insurance companies, whose long–term Dollar debt score will be equal to or greater than BBB– of Standard & Poor's, or have an equivalent grade score granted by another international risk qualification agency.

IM: The cost of quality inspections at ports of loading and unloading, stated in Dollars per gallon (US$ / gallon). This cost will be US$ 0.000286 per gallon as of the date this resolution takes effect.

This amount will be adjusted yearly as of January 1, 2000, based on the costs of quality inspection and handling at port that are in effect on each adjustment date.

TRM: The "Representative Market Rate" as defined in article 96 of the Organic Statutes of the Financial System, in effect on the day immediately prior to the calculation date, as certified by the Bank Superintendent.

A: The equivalent of thirty percent (30 %) of the duty rate paid on ACPM imports stated in Pesos per gallon for December 1999, calculated according to the general tariff established in Article 1 of Decree Law No. 2317 of 1995 or in any regulations amending, adding to or complementing it, applied on the tax basis established in the provisions that govern the customs valuation according to what is set forth in Decree No. 1909 of 1992 and all other regulations complementing of amending it.

TI: The amount paid for the applicable stamp tax, stated in Pesos per gallon, calculated according to the general tariff established in the norms that regulate the matter, or in the norms amending, adding to or complementing them, applied on the tax basis established in the provisions that govern the matter.

t: The time period between the first calendar day of each calendar month and the last calendar day of the same calendar month.

Maximum Wholesale Distributor Sales Price

The Maximum Sales Price, stated in Pesos per gallon, to be charged of Wholesale Distributors by local refiners or importers, for the period t, times the ACPM sales at the local refinery or local import port door, will be the result of applying the following formula:

$$PMI\ (t) = IP\ (t) + PI + PG + Tt$$

PMI (t): The Maximum Sales Price to the wholesale distributor for the period t.

IP (t): The Producer Revenues, as said income is established in the second article of this resolution.

PI: The amount paid for the sales tax, stated in Pesos per gallon, established according to the tariff foreseen in Article 18 of Law No. 223 of 1995 and the regulations complementing of amending it, applied on the tax basis established in the Tax Statutes in effect and any regulations that complementing of amending it.

PG: The amount paid for the Global Tax on ACPM established in Law No. 223 of 1995 or in the norms that complement, substitute or derogate it, according to the amounts established for said tax in Decree No. 1774 of 1996.

Tt: The amount paid for the Stamp Tariff on fuel transportation stated in Pesos per gallon.

Maximum Sales Price at Wholesale Supply Plants

This is the Maximum Sales Price for a period t, stated in Pesos per gallon, that wholesale distributors will charge retail distributors for ACPM sales at wholesale supply plants. It will be the result of applying the following formula:

$$PMA\ (t) = PMI\ (t) + MD$$

Where:

PMA (t): The Maximum Sales Price at wholesale supply plants.

PMI: The Maximum Sales Price to wholesale distributors.

MD: The wholesale distributor's margin, stated in Pesos per gallon set at the amount of seventy Pesos and thirty cents per gallon ($ 70.30 / gallon). This amount includes the operating expenses related to the ACPM distribution business.

This amount will be adjusted annually, as of January 1, 2000, based on the percent variation of the Consumer Price Index for the year immediately prior to the date of the adjustment, as said variation is certified by the competent authority.

A supervised freedom regime is declared, where sales prices to the public per gallon will be set freely by each retail distributor, for the capital cities of Antioquia, Atlántico, Bolívar, Boyacá, Caldas, Cauca, Cesar, Córdoba, Huila, Magdalena, Meta, Nariño, *Norte de Santander*, Putumayo, Quindío, Risaralda, Santander, Sucre, Tolima, and Valle, and for the Federal District of Bogota, subject to market provisions as deemed by the Ministry of Mines and Energy.

In these cities, the contributions to the *Fondo de Protección Solidaria* (SOLDICOM) referred to in Law No. 26 of 1989 and all other norms that regulate the matter, will be estimated applying the percentage referred to in the law on the retail margin (MDM).

Analysis

The price policy defined by the Ministry of Mines and Energy for gasoline and diesel has prevented shocks in fuel exchanges. Nevertheless, there are discussions regarding the formulas that are applied starting with external reference prices based on the opportunity cost concept. Others propose releasing derivatives prices from international levels and setting them according to average production costs in Colombia. The current policy has favored ECOPETROL and the government because their revenues have increased continually as international prices rise: for ECOPETROL, since it receives more money per barrel of derivatives; and for the government, because taxes rise as producer revenues increase. Practically speaking, in the past six years, the resources obtained by the government are the equivalent of several tax reforms. In this way, from the viewpoint of ECOPETROL and the government, the price policy for derivatives is favorable for them and also for potential investors for building refineries. Of course this rising price policy affects users, both because it pressures production costs and because it affects the people's income. However, on the other hand, it has favorable effects on the efficient use of scarce energy resources.

6.5. Transportation via Oil, Product and Gas Pipelines, Refining and Marketing

The 2007 regulations are clear regarding third parties' freedom to use the transportation infrastructure.

The CREG regulations for natural gas are precise: there is freedom of entry, anyone can use the gas pipelines with only condition of making the respective payments for transportation according to the maximum tariffs set by the CREG.

Article 13 of Law No. 681 of 2001 gave third parties open access to the transportation system of product pipelines owned by ECOPETROL.

Decree No. 4299 of 2005, regulating Article 61 of Law No. 812 of 2003, established the requirements, obligations and penalization regime that are applicable to the different agents of the distribution chain for liquid derivatives, except for LPG, since oil distribution constitute a public utility.

The purpose for the Decree was to ensure that upon allowing deregulation and the entry of agents other than ECOPETROL, those entering the oil and fuel distribution and storage market do so under conditions that will allow healthy competition and ensure strong, consolidated agents.

The Decree establishes that entering the business of refining, importing, storage, wholesale distribution, retail distribution, aviation and maritime service stations (retail distribution in land service stations has always been allowed in the private sector), and major consumer of liquid fuels, requires authorization from the Ministry of Mines and Energy.

In conclusion, in 2007, the oil and natural gas sub–sector is open to all private, public and mixed agents.

7. STATE–OWNED ENTERPRISES – ORGANIZATION AND FUNCTIONS, PERFORMANCE REVIEW AND EVALUATION

Two are the State–owned enterprises: ECOPETROL in the oil sector and TGI in natural gas transportation.

7.1. ECOPETROL

History

The *Empresa Colombiana de Petróleos* (ECOPETROL) was created in 1951 as an autonomous agency with legal status, an entirely State–owned company, from the assets of the former Tropical Oil Company that managed the Mares Concession, which exploitation began in 1921 in the area around the city of Barrancabermeja. This concession terminated in 1951, giving birth to ECOPETROL, which received the oil fields, transportation system, the gas plants and Barrancabermeja refinery.

In conformity with Decree Law No. 1760 of 2003, ECOPETROL became a publicly–owned stock company linked to the Ministry of Mines and Energy, governed by its by–laws legalized through Public Writ number 4832 of October 31, 2005, amended by Public Writ No. 4302 of September 26, 2006 and No. 5139 of November 16, 2006. The purpose for this amendment was to offer shares in the enterprise to natural or legal private investors in the future.

Organization

Since February 10, 2006, the National Government changed the current structure of *ECOPETROL S.A*. through Decree No. 409 of 2006, to enhance the efficiency and rationality of the company.

The structure of ECOPETROL pursuant to Decree No. 409 consists of a General Shareholders Assembly made up of shareholder representatives who name a Board of Directors made up of seven main members and their substitutes, who name the Company President.

Adjacent to the President's Office are the Internal Control and Disciplinary Internal Control offices, the President's support department and the Board of Directors.

At the next hierarchical level are the Vice–presidents of Finance, Exploration, Production, Refining and Petrochemicals, Transportation, Commercialization, and Marketing.

The current partners of *ECOPETROL S.A*. are:

- ✓ The Nation – Ministry of the Treasury and Public Credit
- ✓ *Fiduciaria la Previsora S.A*.
- ✓ *Fondo Financiero de Projectos de Desarrollo* (FONADE)
- ✓ *Financiera de Desarrollo Territorial* (FINDETER)
- ✓ *La Previsora Compañía de Seguros S.A*.
- ✓ *Fondo Nacional de Garantías S.A*.

The Shareholders Assembly is maximum directive body in ECOPETROL S.A., made up of the shareholders meeting according to the periodicity, quorum and conditions set forth in its by–laws.

The functions of the General Shareholders Assembly, in addition to those stated in the Code of Commerce, are those set in its by–laws. They include hiring and firing the seven Board members designated by it, as well as their respective substitutes.

The *ECOPETROL S.A*. Board of Directors will be made up of seven (7) members, as follows:

Three (3) members with their respective substitutes, to be named by the President of the Republic.

Four (4) members to be elected by the General Shareholders Assembly with their respective substitutes.

Main and Substitute Board Members will be elected for two (2) year periods. If there were no new election of Main and Substitute Board Members, their mandate shall be understood to be extended until new appointments are made. Board of members will be subject to the inability and incompatibility regime established by law for this effect.

The current Board of Directors is made up of two ministers as main members: that of Mines and Energy and that of the Treasury, with the Minister of Agriculture as a substitute for the Minister of Mines and Energy. The Director of *the Departamento Nacional de Planeación* (DNP) also has a seat on the Board of Directors. All other members are

persons who represent different political and union interests. Table 7.1 shows the names of the Board members for August 2007.

Table 7.1 – Makeup of the ECOPETROL Board of Directors

Main Member	Substitutes
Fabio Echeverri Correa	Roberto Silva Salamanca
Oscar Iván Zuluaga, Minister of the Treasury	Gloria Inés Cortés Arango, Deputy Minister of the Treasury
Hernán Martínez Torres, Minister of Mines and Energy	Andrés Felipe Arias Leyva, Minister of Agriculture
Ignacio Sanín Bernal	July Andrés Torres García
Gustavo Gaviria Ángel	Andrés Escobar Arango
Carolina Rentería Rodríguez, DNP Director	María Elena Velásquez Restrepo
Omar A. Baquero Soler	William Escaf Escaf

The Board members should be committed to the corporate vision of the company and should meet at least the following requirements: (i) have knowledge and experience in activities relating to the corporate purpose of the company and/or have knowledge and experience in the fields of industry and/or commerce, finance, stock exchange, administration, legal, or related sciences; (ii) have of good name and recognition for their professional suitability and integrity; and (iii) not belong simultaneously to more than five (5) Boards of Directors juntas including that of *ECOPETROL S.A*.

The Board of Directors will elect, from among its members, its President and Vice–president, who will have the duty of presiding and directing the regular and special meetings of the Board of Directors and will be elected for periods of one (1) year.

The President of *ECOPETROL S.A*. will attend the Board meetings, and will have a voice but no vote. In no case may the President of *ECOPETROL S.A*. be designated as the Board Chair.

QUORUM.– The Board of Directors will deliberate with a number equal to or greater than five of its members. All decisions will be made by a majority vote of the members in attendance.

The duties of the Board of Directors will be those stated in the by–laws, which will establish the periodicity of its meetings, quorum and all other conditions.

The Board of Directors will propose to the National Government any structural amendments it deems advisable for full development of its functions

The legal representation of *ECOPETROL S.A*. will be held by a President, who will be designated by the Board of Directors and will have two (2) substitutes. The Board of Directors will name the persons to serve as First and Second substitute for the President.

The President's term will be two (2) years from his/her election, but he/she may be reelected indefinitely or freely removed from the position before the expiry of said term.

The president will submit to the consideration of the Board of Directors all things relating to the management and structure of the entity.

The company will have a Secretary or a person in charge of those duties, who will also be the Secretary of the General Assembly and of the Board of Directors.

Privatization of ECOPETROL

According to the government, due to difficulties financing its investment plans and achieving administrative, budgetary and financial autonomy, ECOPETROL is currently in the process of changing its legal structure. This consists of capitalizing 20 % of the enterprise, leaving a majority share of 80 % in State hands. Its current condition as a State–owned enterprise conditions it to having its investment budget approved by the Ministry of the Treasury, because any additional investments reduce the investment capacity of other sectors of the Colombian State.

This process goes hand in hand with establishing ECOPETROL as a stock company and eliminating company prerogatives to assign exploration areas, to become one more competitor in equal conditions to accede to new exploratory blocks. This means that the company should seek its own reserves and assume exploration risks individually.

Another substantive change for ECOPETROL is the expansion of its business objectives, along with the new structure of direction and administration offices. *ECOPETROL S.A*., once constituted as a mixed public–private company, will be directed and managed by the General of Shareholders Assembly, the Board of Directors and the company President, as stated in its by–laws. The General Assembly will designate the Board members and they will designate the President.

Similarly, the new organizational structure will enable ECOPETROL to obtain managerial independence (labor and price–setting autonomy), make its relations with the government transparent (covenanted through stable rules in terms of transfers, including dividends), and have a suitable ownership structure. This is expected to result in greater business competitiveness and in efficient resource use in projects having a favorable mix of profitability and risk.

ECOPETROL Work Environment

ECOPETROL has been working in a very difficult environment over the past thirty years due to limitations and restrictions on its activities by different administrations. Since its creation in 1949 until the eighties, it has developed greatly, having built and expanded refineries, created the Colombian petrochemical industry with its five–year plans, explored and discovered oil, expanded the transportation network, began mass distribution of natural gas, installed service stations throughout the country, especially in remote areas, invested in coal and power companies, formed natural gas distribution companies and participated in numerous social projects. However, since the late eighties and more strongly from 1990 began a policy of dismantling the company and of heavy restrictions on its investment policy. It was forbidden to invest in refineries, gas pipelines, retail distribution, natural gas marketing and oil pipeline construction. It was limited as an oil company, left with only oil and natural gas exploration and exploitation and operating old refineries, with the contradiction that it was only allowed to use an minute proportion of its oil surplus, with no opportunity to carry out a major exploration plan to find oil and natural gas new reserves of.

In the power sector, meanwhile, the 1994 reforms gave companies more freedom to act by making them limited public utility companies, with a private contracting regime. So it is that companies such as ISA and EPM, that were already efficient before the 1994 laws, received new air by removing their contracting restrictions and so much governmental interference. Additionally, with the new environment of international liberalization, ISA and EPM began to make incursions outside of Colombian borders, with very positive and amazing results for ISA. As a result, ISA is the largest electric energy transporter in Latin America and the third largest on the American Continent, with investments in Ecuador, Bolivia, Peru, Brazil, and Central America.

In such a different environment, it is understandable that ECOPETROL could not have the same prominence as ISA.

Another important restriction is the Board of Directors membership, made up of National Governmental officials, such as the Minister of the Treasury and Public Credit and the Director of the *Departamento Nacional de Planeación*, who are more interested in finding resources to finance the national budget and reduce the fiscal deficit.

Since ECOPETROL is a State–owned company included in the fiscal account of the Nation, one way to reduce the fiscal deficit is to limit the company's investments in order to show a higher surplus. Thus the presence of the Minister of the Treasury and the DNP Director to have direct control over the entity.

ECOPETROL has worked within the regulatory framework of the Oil Code, of Law No. 142 of 1994, of the CREG norms for natural gas, and its own by–laws. As a State–owned enterprise, it has been subjected to the regulations for industrial and commercial State enterprises in terms of contracting. However, with the sale of 20 % of its shares and its new by–laws, ECOPETROL has greater flexibility to operate in the future. Seen from the past, the enterprise had to operate in a restrictive environment and in unequal conditions

with the private sector. It had the advantage that any exploration had to be done through the partnership contracts, and this advantage was removed with the issuance of the New Oil Contract of 2004.

In turn, changes from 2004 to 2006 have afforded ECOPETROL greater autonomy in terms of contracting goods, services and personnel, but oblige it to compete for exploration areas. In this regard, it is equal to private enterprises in terms of operating conditions.

The new norms mean for ECOPETROL a limitation on its monopoly role in prospecting, production and operation of oil and gas fields. Since the creation of the *Agencia Nacional de Hidrocarburos* it is not necessary for the private sector to partner with the State–owned company for exploration and production. This seeks to make ECOPETROL more efficient by adding competition because it must compete to acquire exploration zones alongside the private sector.

For natural gas, the *Comisión de Regulación de Energía y Gas* (CREG), created in 1994, has approved a series of measures for transportation and commercialization of natural gas with regard to tariff design, quality, competition, and limitation of monopolistic practices that apply equally to private, mixed and public enterprises.

In conclusion, the former regulatory framework had benefits for ECOPETROL because it gave it a monopoly on exploration, but the contracting rules and government regulations limited its making efficient use of resources and restricted its resource management autonomy.

With the new oil contract norms it lost its monopoly on exploration as it has to compete with the private sector. On the other hand, changes in the company by–laws give it more operational autonomy. However, the use of the oil recovering degraded natural areas is still subject to National Government decisions.

Financial Indicators

The financial evolution of ECOPETROL has been satisfactory during 2004–2006 since its assets have grown in real terms as has its equity, revenues, operational earnings and net earnings (Table 7.2). The financial results of these past years have been favored by the historical juncture of high international oil prices, which has counteracted ECOPETROL's decrease in crude oil exports. Thus net earnings grew 26.7 % in 2005 and 2006, above the yearly inflation of 5 %.

Table 7.2

ECOPETROL S.A. **BALANCE SHEET** **(millions of Pesos)**							
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
CURRENT ASSETS					3 814 231	5 344 863	7 286 229

TOTAL ASSETS					27 964 390	32 664 817	42 137 722
CURRENT LIABILITIES					3 486 575	3 499 948	3 982 428
TOTAL LIABILITIES					6 514 296	9 785 303	16 853 318
EQUITY					10 000 871	13 285 251	20 835 746
INCOME					13 050 607	15 512 903	18 389 965
TOTAL SALES COST					8 096 690	9 740 885	11 948 974
OPERATIONAL EARNINGS					4 531 171	4 498 385	4 755 832
EARNINGS BEFORE TAXES					3 180 812	4 288 330	4 891 142
NET EARNINGS					2 110 506	3 253 756	3 391 373
LIQUIDITY RATIO					0.59	0.55	0.43
TOTAL INDEBTEDNESS					65.1 %	73.7 %	80.9 %
RETURN ON EQUITY					21.1 %	24.5 %	16.3 %

Source: ECOPETROL, Financial Indicators

Figure 7.1. (a)
Earnings before Taxes and Net Earnings Variation

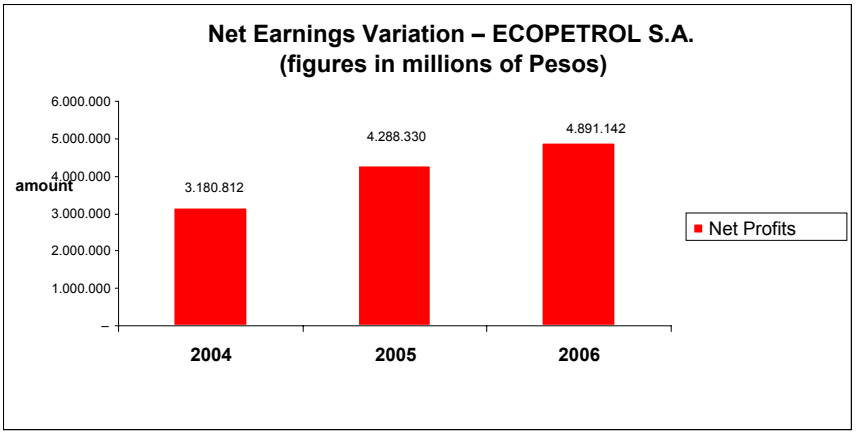


Figure 7.1 (b)
Liquidity Rate Variation

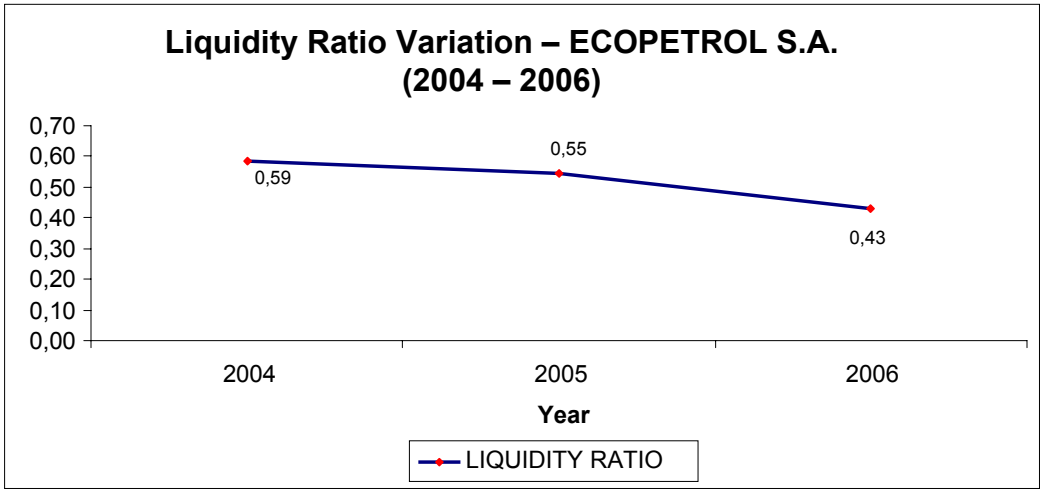
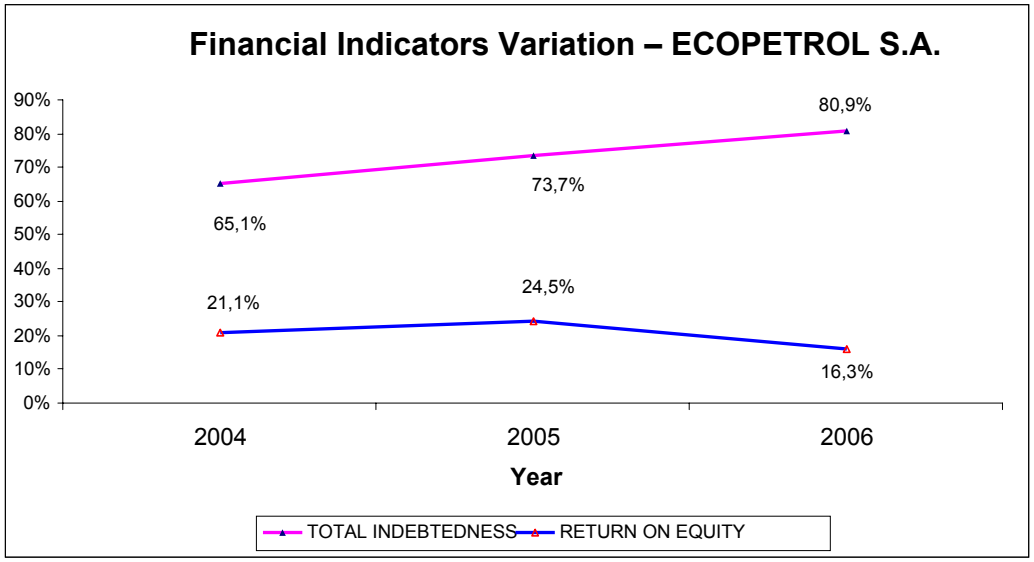


Figure 7.1 (c)
Financial Indicator Variation



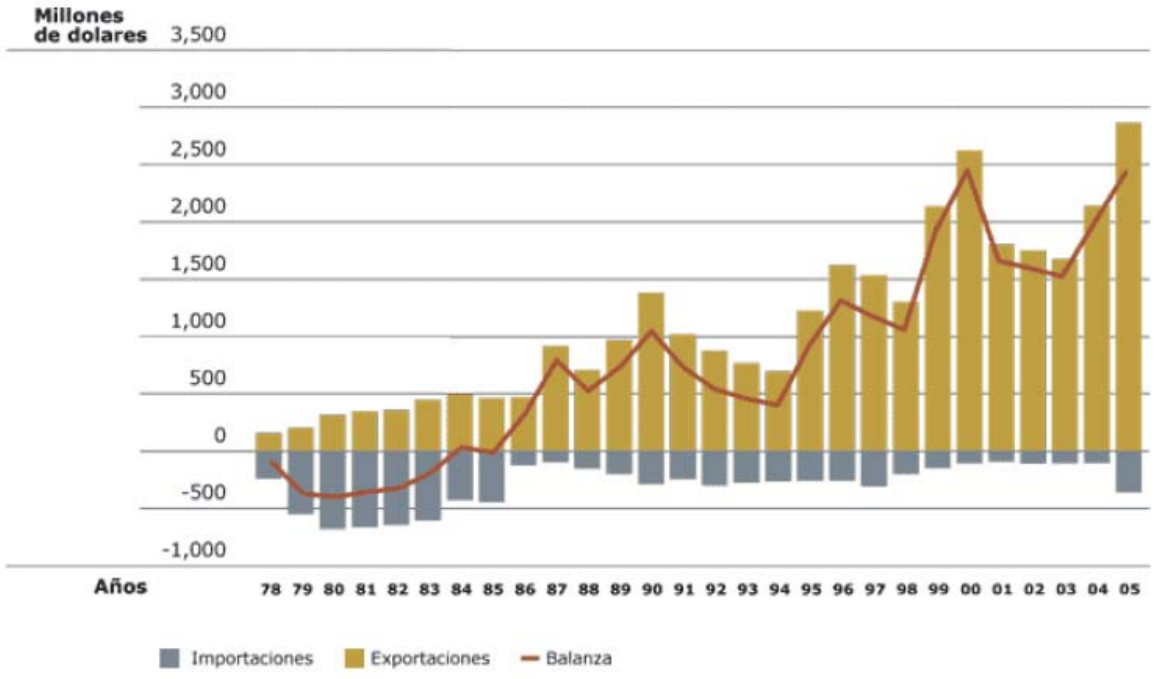
ECOPETROL's trade balance improved substantially from 1999 to 2006 as a result of the rise in international prices, since ECOPETROL export oil derivatives, petrochemical products and oil, and imports diesel, basically, and lesser amounts of gasoline. In this way the trade balance increased from 1949.90 million Dollars to 2454.39 million Dollars (Table 7.3).

Table 7.3.
Trade Balance

BALANZA COMERCIAL DE ECOPETROL MUS$			
AÑO	EXPORTACIONES	IMPORTACIONES	BALANZA
1999	2.103,67	153,77	1.949,90
2000	2.585,62	111,01	2.474,61
2001	1.776,02	95,47	1.680,55
2002	1.722,74	107,61	1.615,13
2003	1.653,92	110,13	1.543,79
2004	2.111,54	106,19	2.005,36
2005	2.822,62	368,22	2.454,39

Source: ECOPETROL, International Trade Department

Figure 7.2.
Trade Balance Variation



7.2. *Transportadora de Gas del Interior* (TGI)

History

By Law No. 401, the *Empresa Colombiana de Gas* (ECOGAS) was created on August 20, 1997, as a national, decentralized entity attached to the Ministry of Mines and Energy. This industrial and commercial State enterprise was formed with ECOPETROL's natural gas transportation assets, which were transferred to the new public enterprise without any compensation. ECOGAS began its operations with its own structure on January 15, 1998, initially with 1100 kilometers of its own gas pipelines and 900 through the Build, Operate, Maintain and Transfer (BOMT) system.

Under President Álvaro Uribe's policy of privatizing State–owned enterprises, in 2005 the process of selling the State's shares in ECOGAS began. This sale of assets, rights and contracts was carried out in December 2006, with the surprise that the *Empresa de Energía de Bogotá* (EEB), with a majority capital in 81 % of the Federal District of Bogota, purchased the majority stock of the *Empresa Colombiana de Gas* (ECOGAS) and set up the nascent *Transportadora de Gas del Interior* (TGI S.A. E.S.P.), as part of the EEB's goal to consolidate its energy expansion strategy based on gas as an cheap, ecological fuel with a future projection.

The company *Transportadora de Gas del Interior* (TGI S.A. E.S.P.), was created as a stock company and a public utility service company on February 19, 2007. This company is subject to the regulation, oversight and control of competent authorities such as the *Comisión de Regulación de Energía y Gas* (CREG), the *Unidad de Planeamiento Minero–Energético Unidad de Planeamiento Minero–Energético* (UPME) and the *Superintendencia de Servicios Públicos Domiciliarios* (SSPD).

By mid 2007, TGI had transportation network 3,237 kilometers long, 54.9 % of the national total, made up of the following eight transportation systems:

a) Ballena–Barrancabermeja Gas Pipeline

b) *Costa Atlántica* TGI Gas Pipelines

c) *Centro Oriente* Gas Pipelines

d) *Sur de Bolívar* and Santander Gas Pipelines

e) Mariquita–Cali Gas Pipeline

f) Cusiana–Apiay–Bogota Gas Pipeline

g) Cusiana–*El Provenir–La Belleza* Gas Pipeline

h) Morichal–Apiay Gas Pipeline

Organization and Functions

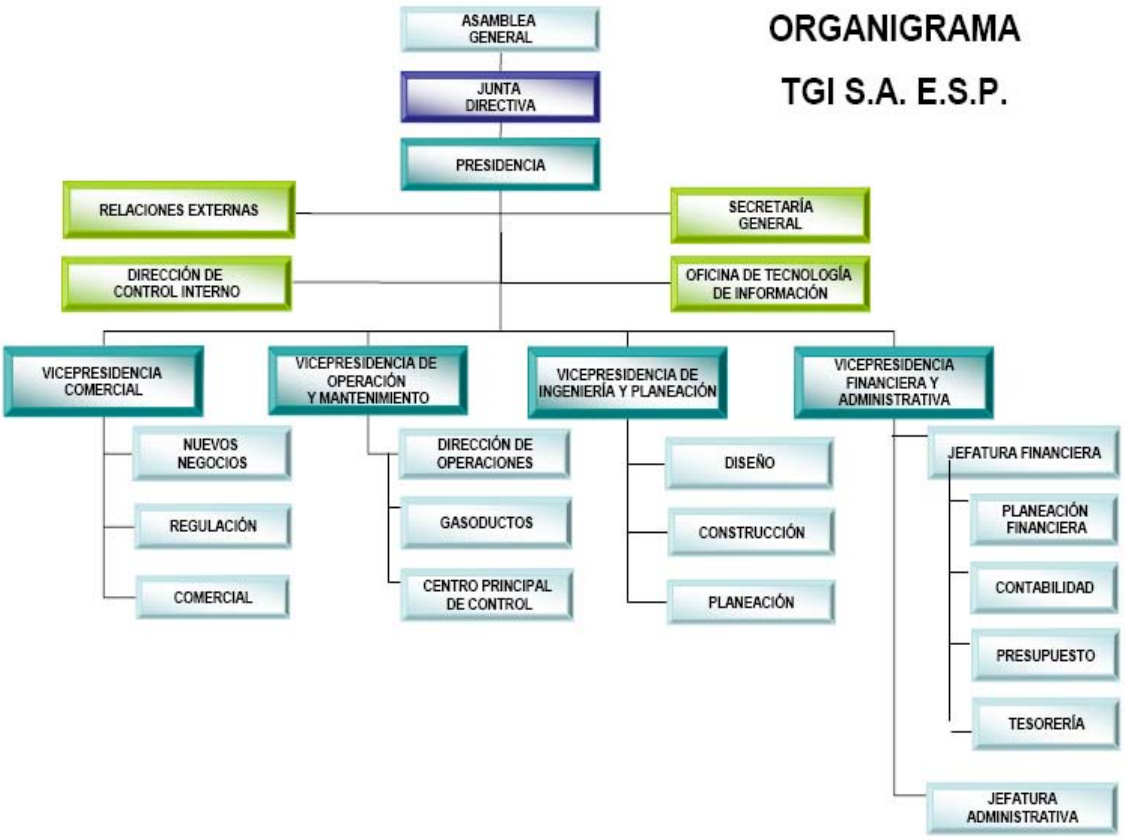
The purpose for TGI S.A. E.S.P. is planning, organization, expansion, construction, operation, maintenance, and commercial exploitation of its own natural gas transportation systems.

TGI S.A. E.S.P. has a Board of Directors made up of seven (7) main members and seven (7) substitutes named by the *Empresa de Energía de Bogotá*.

The organic structure of TGI S.A. E.S.P., includes of seventy (70) full–time staff distributed among four vice–presidencies (Figure 7.3).

TGI is the only transportation company of the interior, a public enterprise, while in *Costa Norte* PROMIGAS, private enterprise, operates. However, both are subject to the same rules in terms of collecting transportation charges, third parties rights, quality, and all types of technical standards. The only difference is that they have distinct jurisdictions and are natural monopolies. It is necessary to comment, however that theoretically any enterprise could build a new gas pipeline. So it is that there is one main gas pipeline that carries natural gas to Medellin and another that goes to Cali, both built and operated by different companies. That is, there is complete freedom of entry. ECOGAS was created to operate ECOPETROL's gas pipelines with the idea that this enterprise should get rid of its transportation system in order to apply to the hydrocarbons sector the theories regarding the separation of power sector activities and their administration by different enterprises.

Figure 7.3 – TGI Organizational Chart



Financial Information

The financial situation of TGI (formerly ECOGAS) is shown in Table 3. Balance sheet variables are positive, as both assets and equity show a real, constant increase from 2000 to 2005 (Table 7.4).

In terms of the loss / profit statement variables, the operational earnings has been increasing in real terms while net earnings, after growing in 2001 and 2002, dropped slightly in the following years.

The liquidity and total indebtedness ratios are fairly positive and return on equity since 2001 has been above the inflation rate, although it declined from a maximum of 21.0 % in 2002 to 11.3 % in 2005.

Table 7.4

ECOGAS BALANCE SHEET (thousands of Pesos)							
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Current assets	98.865.212	99.086.916	143.786.428	213.122.037	222.675.713	415.111.332	604.471.931
Total assets	789.507.067	707.250.047	795.516.931	919.151.636	999.419.066	1.182.356.412	1.588.102.548
Current liabilities	23.203.700	24.750.971	37.642.713	9.846.915	10.431.289	12.072.591	49.769.802
Total liabilities	148.127.148	26.427.092	37.642.713	9.846.915	10.431.289	12.072.591	49.769.802
Equity	641.379.919	680.822.955	757.516.931	909.304.721	988.987.777	1.170.283.821	1.538.332.746
Operational revenues	193.482.203	214.794.993	274.691.498	329.531.449	344.507.972	354.810.523	406.496.183
Total sales cost	136.269.946	162.420.604	167.683.007	159.401.239	155.269.236	151.482.529	144.991.701
Operational earnings	38.456.373	35.779.132	88.994.469	149.960.583	164.446.703	157.131.761	206.967.407
Earnings before taxes	42.114.916	50.396.518	112.989.494	195.203.686	182.875.432	178.630.136	205.384.248
Net earnings	37.087.700	45.348.212	106.610.292	191.832.706	180.326.582	177.630.608	173.956.845
Liquidity ratio	**4,26**	**4,00**	**3,82**	**21,64**	**21,35**	**34,38**	**12,15**
Total indebtedness	**23,1%**	**3,88%**	**4,97%**	**1,08%**	**1,05%**	**1,03%**	**3,24%**
Return on equity	**5,78%**	**6,66%**	**14,07%**	**21,10%**	**18,23%**	**15,18%**	**11,31%**

Figure 7.4. (a)

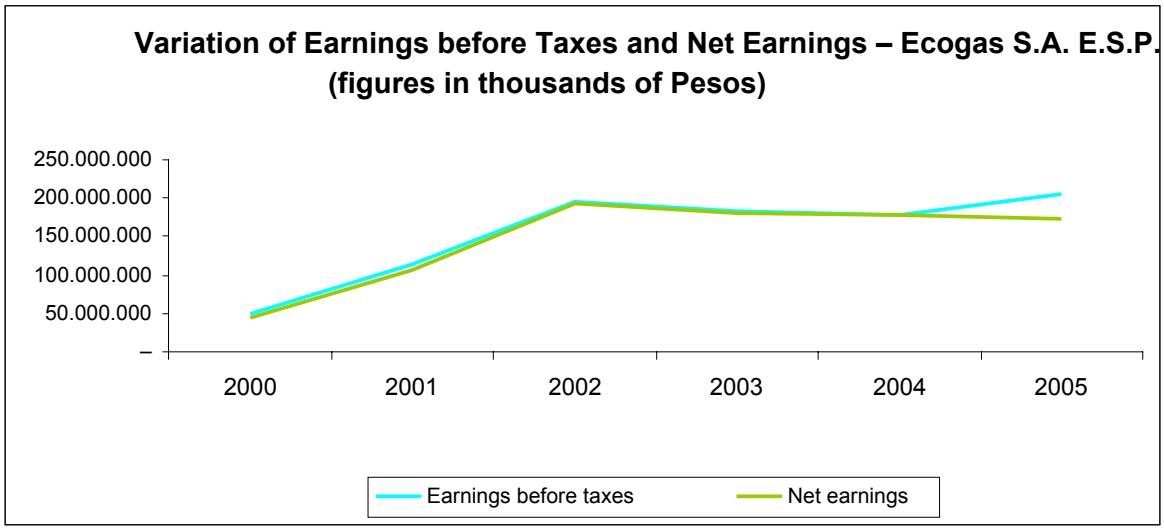


Figure 7.4. (b)

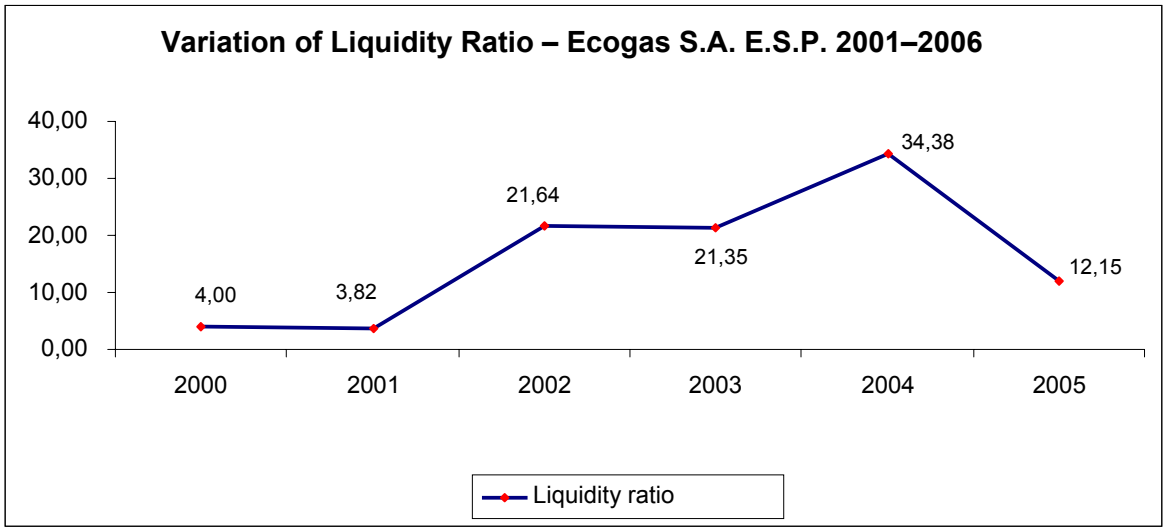
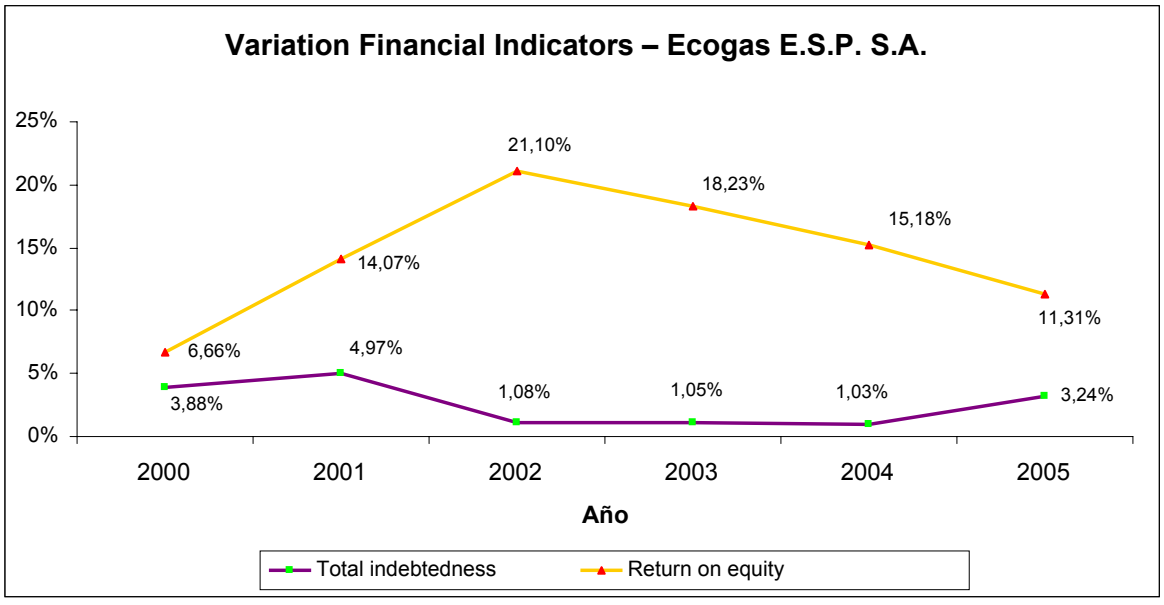


Figure 7.4. (c)



8. PRIVATE SECTOR ENTERPRISES – DUTIES AND PERFORMANCE REVIEW; COORDINATING ORGANIZATION

The private sector been gaining increasing preponderance in the hydrocarbons sector.

In the oil sub–sector, new contracting reforms opened the sector to exploration and exploitation, with no need to partner with ECOPETROL, as occurred before 2002 through partnership contracts. In transportation, oil pipeline construction may be done by private enterprises. Private enterprise is one hundred percent in charge of retail products distribution.

As for natural gas, exploration and exploitation is the same as with oil. Natural gas transportation has two enterprises: TVI for the interior of the country and PROMIGAS, a private company, for the *Costa Atlántica* region. Most natural gas distribution companies are private, with the exception of EPM–GAS.

In the LPG sub–sector, ECOPETROL is responsible for production, but the rest of the chain is entirely in private hands.

ECOPETROL continues playing an important role since it has notable oil, gas and LPG production, operates the two largest refineries –Cartagena and Barrancabermeja– and owns most oil pipelines and propane pipelines. However, it has lost much strength as it does not participate in gas pipeline construction or in natural gas and oil product distribution. It does not set fuel prices or the exploration policy, and is subject to governmental control.

Over the past ten years, private enterprise has been gaining ground on ECOPETROL in all spheres. The functions of technical standards, regulation and control are performed by different entities, in such wise that enterprises, whether State, private or mixed, only have the function of operating within their fields of action and of participating in discussions on regulations that might affect them.

8.1. *Gas Natural E.S.P.*

Gas Natural S.A. E.S.P. was created as a commercial company on April 13, 1987, with a majority share for ECOPETROL of 80.71 % of the company's entire stock makeup. In 1991, ECOPETROL transferred 50 % of the shares it owned to the *Empresa de Energía de Bogotá* (EEB) at the end of a capitalization that was moved forward to March of that year, leaving the *Empresa Colombiana de Petróleos* with 42.26 % and the EEB with 40.35 % of the company's entire stock makeup.

In June 1997 the sale of the share that ECOPETROL had at that time in the company was consolidated and completed, and the "*Grupo Inversor Español*" entered as a new majority shareholder, who through the company *Gas Natural Latinoamericana* purchased 53.74 % of the company shares. In this process also entering the enterprise as company shareholders were *Fondos de Pensiones y Cesantías Porvenir* with 6.44 %, DAVIVIR with

2.76 %, and COLFONDOS with 0.80 % of the shares. That year the share of the *Empresa de Energía de Bogotá* was kept at 26.25 %, thus positioning it as the second largest shareholder in the enterprise.

In 1999 the stock shares of the *Grupo Inversor Español* were defined, with *Gas Natural Internacional SDG* having 39.23 %, LAUROSTE 98 S.L. having 9.33 %, and SABINELY 2000, S.L. having 3.40 %. For that year the 26.25 % share of the *Empresa de Energía de Bogotá* was maintained, as were those of the *Fondos de Pensiones y Cesantías*.

After a company capitalization in December 1999, the *Empresa de Energía de Bogotá* increased its share to 28.6 %, the percentage that represented the public sector role, in such wise that 71.45 are in private hands (Table 8.1).

Gas Natural is the largest natural gas marketing company, with 1,200,000 users by year–end 2006, equal to 36.36 % of the country total.

Table 8.1

Shareholders of Gas Natural – 2006

Shareholder	No. of Shares	%
Gas Natural Internacional SDG S.A.	20 956 539	56.77
Empresa de Energía de Bogotá S.A. E.S.P.	10 569 121	28.63
Fondo de Pensiones Obligatorias Porvenir	3 023 637	8.19
Sabinely 2000 S.L.	847 502	2.30
Rest of Shareholders	1 520 789	4.12
TOTAL	**36 917 588**	**100.00**

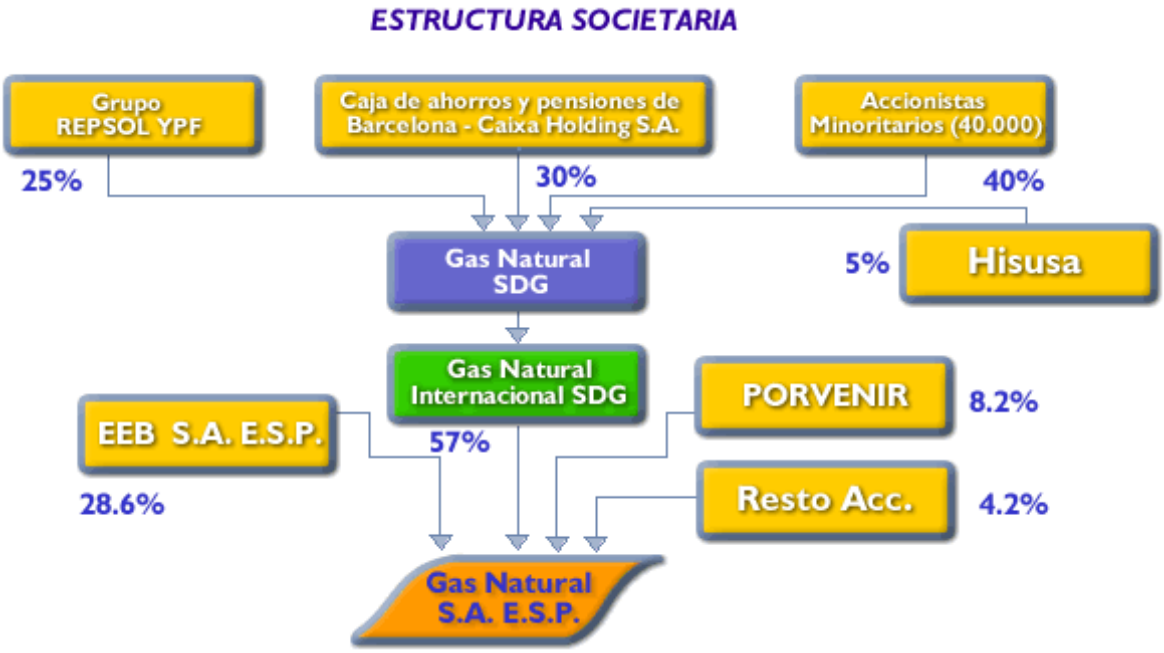
Source: Annual Report of *Gas Natural*

Figure 8.1 contains the partnership structure of the natural gas matrix in Spain, showing that *Gas Natural Internacional* is handled by *Gas Natural de Colombia*.

Natural gas underwent the same process as the gas pipelines under ECOPETROL control. The government ordered the State–owned enterprise to get rid of its assets in natural gas marketing, under the same idea of turning ECOPETROL into an enterprise that only handled primary energy. There were no reasons of inefficiency, since the company had been growing very Well, meeting a repressed demand. Gas Natural was perhaps the most dynamic enterprise in the world, with an enormous market for a city of seven million inhabitants. It was profitable, and there was no justification for its privatization except for ideological reasons and a short–term desire to obtain a few resources for ECOPETROL,

which was only US$ 70 million, when in late 2006 the fixed assets of *Gas Natural E.S.P. S.A*. were worth US$ 350 million.

Figure 8.1.



Financial Information

The company ECOGAS presents a very positive financial situation at 2003, since all indicators improved substantially (Table 8.2).

Total assets went from 431,527 million Pesos to 213,657 million Pesos, and equity from 351,902 million Pesos to 504,093 million Pesos. Net earnings grew from 48,000 million Pesos to 161,827 million Pesos, with rates of return on equity of over 30 % in 2005 and 2006, well above the 5 % inflation rate.

Table 8.2.

Genera Balance of *Gas Natural*

GAS NATURAL BALANCE GENERAL (Millones de Pesos)							
	2000	2001	2002	2003	2004	2005	2006
ACTIVO CORRIENTE	395.618.001,07	474.949.359,64	509.480.998,86	85.401.905,44	260.195.757,45	252.362.113,78	19.171.508,41
TOTAL ACTIVO	431.526.928,10	544.838.112,75	596.962.871,96	506.498.925,89	747.163.074,32	678.648.870,46	717.749.867,46
PASIVO CORRIENTE	34.002.727,58	96.926.625,36	79.568.993,66	25.772.071,65	116.298.137,08	177.423.813,57	140.248.972,26
TOTAL PASIVO	79.624.484,17	179.349.907,51	76.537.157,53	56.364.319,65	223.524.079,98	282.695.314,52	213.656.861,92
PATRIMONIO	351.902.443,93	365.488.205,24	440.856.720,77	450.134.606,24	523.638.994,34	395.953.555,94	504.093.005,54
INGRESOS OPERACIONALES	241.818.378,99	271.879.904,10	390.819.095,12	348.057.830,91	430.232.664,68	533.703.369,18	657.379.640,20
TOTAL COSTO DE VENTAS	180.588.872,93	222.131.402,38	296.553.852,22	210.256.598,23	253.994.826,35	274.560.229,85	374.635.189,78
UTILIDAD OPERACIONAL	27.348.383,07	769.141,75	29.433.984,74	56.357.238,28	68.742.087,71	123.166.147,06	133.089.163,48
UTILIDAD NETA	4.808.513,20	-24.957.836,73	10.511.974,20	82.830.384,73	68.511.122,54	120.853.666,90	161.827.606,59
RAZON DE LIQUIDEZ	**11,63**	**4,90**	**6,40**	**3,31**	**2,24**	**1,42**	**0,14**
ENDEUDAMIENTO TOTAL	**22,63%**	**49,07%**	**17,36%**	**12,52%**	**42,69%**	**71,40%**	**42,38%**
RENTABILIDAD DEL PATRIMONIO	**1,37%**	**-6,83%**	**2,38%**	**18,40%**	**13,08%**	**30,52%**	**32,10%**

GAS NATURAL BALANCE SHEET (thousands of Pesos)
Current assets
Total assets
Current liabilities
Total liabilities
Equity
Operational revenues
Total sales cost
Operational earnings
Earnings before taxes
Net earnings
Liquidity ratio
Total indebtedness
Return on equity

Figure 8.2 (a)

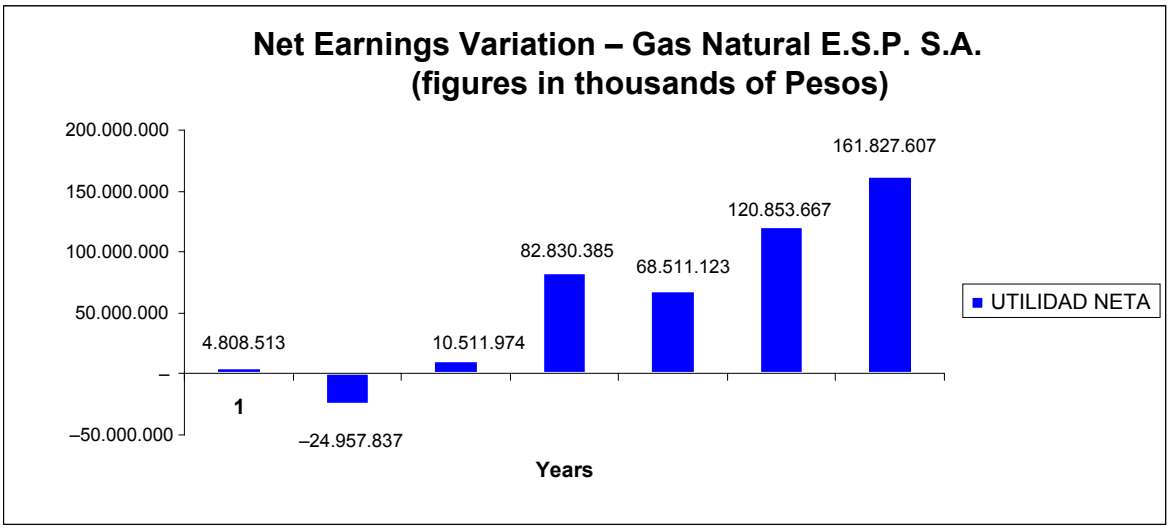

Net Earnings Variation – Gas Natural E.S.P. S.A.
(figures in thousands of Pesos)
200.000.000
150.000.000
100.000.000
50.000.000
–
–50.000.000
4.808.513
–24.957.837
10.511.974
82.830.385
68.511.123
120.853.667
161.827.607
1
Years
UTILIDAD NETA

Figure 8.2 (b)

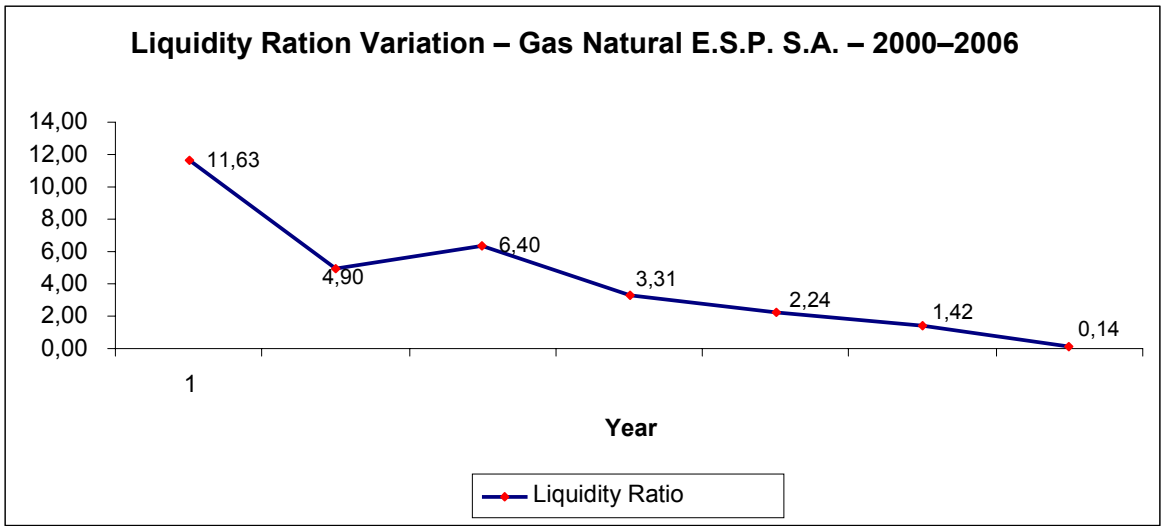
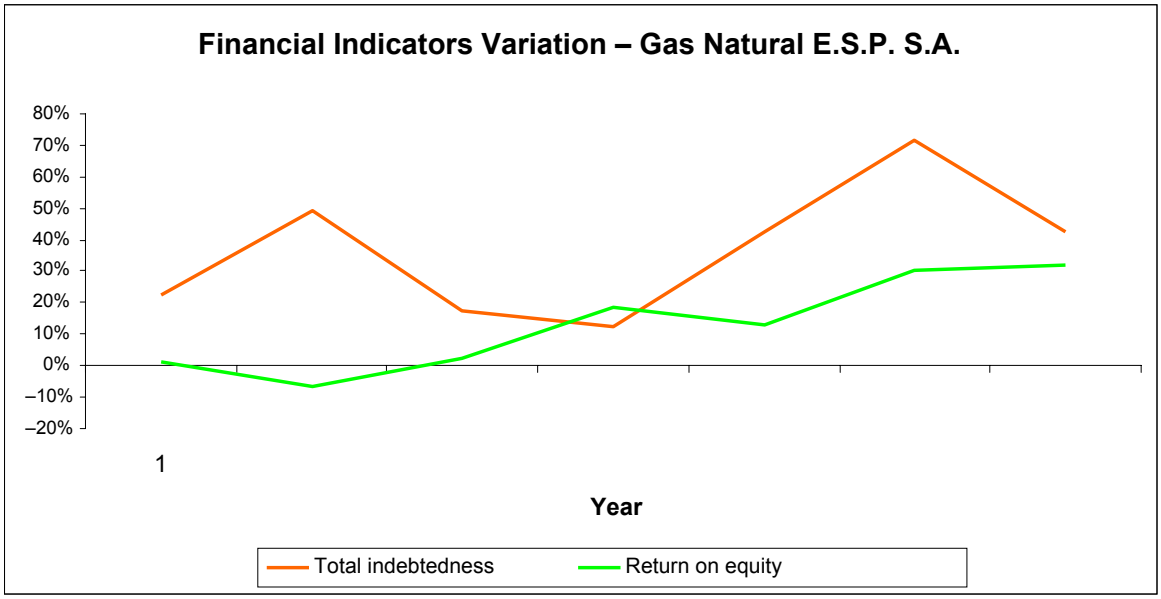


Figure 8.2 (c)



8.2. *PROMIGAS S.A*.

PROMIGAS is a private enterprise that does business in four activities: transportation of gas, gas distribution, distribution of vehicular natural gas and oil derivatives through its shares in TERPEL, an enterprise created by ECOPETROL, but privatized at the end of the 20th Century.

PROMIGAS owns a 2039 kilometer network that is 34.6 % of the national total, and has investments in the natural gas transportation systems of the companies CENTRAGAS, TRANSORIENTE, TRANSMETANO, CBS, and TRANSOCCIDENTE.

As for natural gas distribution, PROMIGAS has four enterprises: *Gases del Caribe*, Surtigas, *Gases de la Guajira* and *Gases de Occidente*, with 1,521,028 users, and a coverage of 45.7 % of the national total in 2005.

Organization

PROMIGAS S.A. E.S.P., is a Colombian commercial stock company with its domicile in Barranquilla.

Company direction and administration are under the General of Shareholders Assembly, the Board of Directors and the President, who is its Legal Representative. The company will have the employees determined by the Board of Directors and a Statutory Auditor with its respective substitute.

The PROMIGAS Board of Directors is elected by the General of Shareholders Assembly through the electoral quotient system, which applies to all elections in which two or more persons vote, for a two–year period. The PROMIGAS Board of Directors is made up of five (5) main members, each with two substitutes. The Board of Directors will set up special committees under it, made up of PROMIGAS officers and Board members, and will name their chairs.

As a minimum, it will designate the following committees:

- ✓ **Audit and Good Corporate Government Committee**
- ✓ **Compensation and Development Committee**

In order to exercise control over activities and processes, there are several decision–making levels, headed by the General Assembly, which is followed by:

- ✓ Quality Management: made up of an Executive Committee, Organizational Development Committee, Engineering Committee, and Risk Committee.
- ✓ Customer Service
- ✓ Audit Manager
- ✓ Statutory Auditor

The major shareholders at March 31, 2007 are shown in Table 8.3. The principal shareholder is the *AEI Colombia LTD* group with 42.98 %, followed by the *Corporación Financiera Colombiana* with 14.39 %, for a total of 57.37 %.

Table 8.3
PROMIGAS Shareholders

Promigas

Primeros 20 accionistas al 31 de marzo de 2007

Tipo de Identificación	No. de Identificación	Nombre	No. de Acciones	Participación %
Nit	9,001,184,464	AEI Colombia Ltd	57,131,770	42.98
Nit	8,903,006,536	Corporación Financiera Colombiana S.A.	19,123,532	14.39
Nit	8,300,129,229	Prisma Energy Colombia Holdings Ltd	13,159,943	9.90
Nit	8,903,014,430	Amalfi S.A.	10,618,417	7.99
Nit	8,002,297,390	Fondo de Pensiones Oblogatorias Protección	7,222,656	5.43
Nit	8,903,171,966	Consultoría e Inversiones S.A.	6,697,440	5.04
c.c.	16,622,150	Scarpetta Gnecco Mario	3,315,377	2.49
c.c.	29,562,200	Scarpetta de Piedrahita Gloria	2,990,710	2.25
c.c.	31,239,052	Scarpetta Gnecco Lilly	2,738,918	2.06
Nit	8,002,319,671	Fondo de Pensiones Horizonte	1,783,789	1.34
c.c.	22,393,561	Scarpetta Gnecco Consuelo	1,314,218	0.99
Nit	8,002,279,406	Fondo de Pensiones Obligatorias Colfondos	454,423	0.34
Nit	8,600,067,732	Cavipetrol	321,329	0.24
c.c.	22,280,194	Carbonell de Pochet Ilva	314,587	0.24
Nit	8,600,417,920	Fondo Seguridad Bolívar	208,235	0.16
Nit	8,002,241,342	Fondo Dafuturo Fimpro	182,470	0.14
c.c.	21,372,638	Monsalve Macías Consuelo	165,766	0.12
Nit	8,600,452,333	Agrinsa Ltda.	147,834	0.11
c.c.	804,195	Carbonell Mac Causland Antonio Luis	138,163	0.10
c.c.	17,107,626	Ayerbe Muñoz Julio Manuel	127,734	0.10
Sub-total acciones ordinarias			**128,157,311**	**96.42**
Otros accionistas con menor participación			4,757,486	3.58
Total acciones en circulación			**132,914,797**	**100.00**

First 20 shareholders at March 31, 2007				
ID Type	ID No.	Name	No. Shares	Stock %
Sub–total ordinary shares				
Other stockholders with less share				
Total shares in circulation				

PROMIGAS is a parallel company to TGI but for the *Costa Norte* region, that handles the branches, but in contrast to TGI it markets natural gas. It has more control than TGI, because it is the only transportation company in the Northern region, and is a monopoly controlled as TGI by the *Comisión de Regulación de Energía y Gas*.

Financial Information

Total assets and equity show growing numbers for PROMIGAS, having multiplied by over five from 2000 to 2006 (Table 8.4).

Table 8.4.
PROMIGAS Balance Sheet

PROMIGAS BALANCE GENERAL (Miles de Pesos)							
	2000	2001	2002	2003	2004	2005	2006
ACTIVO CORRIENTE	102.539.976,65	151.575.188,67	145.042.810,14	150.065.448,74	140.873.458,08	161.371.799,57	185.792.344,52
TOTAL ACTIVO	771.885.898,39	917.779.113,72	1.045.651.129,52	1.185.374.419,74	2.543.749.926,52	2.878.602.240,77	3.164.758.392,80
PASIVO CORRIENTE	88.239.920,02	120.823.438,73	127.409.334,14	130.038.239,73	125.421.942,28	262.011.088,67	144.311.616,43
TOTAL PASIVO	276.314.505,72	355.875.248,21	416.297.805,31	447.834.565,83	874.877.013,13	980.443.062,25	1.022.083.921,89
PATRIMONIO	495.571.392,67	561.903.865,51	629.353.324,21	737.539.853,91	1.668.872.913,39	1.898.159.178,52	2.142.674.470,91
INGRESOS OPERACIONALES	126.280.261,44	138.994.555,78	150.308.753,24	177.913.443,96	177.461.818,52	152.103.215,78	168.478.088,66
TOTAL COSTO DE VENTAS	49.416.202,13	55.688.888,83	61.200.679,84	77.247.422,30	84.035.863,71	83.504.048,10	83.571.130,11
UTILIDAD OPERACIONAL	52.819.561,71	45.612.909,10	46.374.851,04	44.726.227,50	42.062.331,12	24.884.339,33	38.285.672,98
UTILIDAD NETA	59.163.113,45	67.471.412,45	73.766.838,52	85.599.888,25	112.825.563,64	169.941.504,59	130.638.339,66
RAZON DE LIQUIDEZ	**1,16**	**1,25**	**1,14**	**1,15**	**1,12**	**0,62**	**1,29**
ENDEUDAMIENTO TOTAL	**55,8%**	**63,3%**	**66,1%**	**60,7%**	**52,4%**	**51,7%**	**47,7%**
RENTABILIDAD DEL PATRIMONIO	**11,9%**	**12,0%**	**11,7%**	**11,6%**	**6,8%**	**9,0%**	**6,1%**

PROMIGAS BALANCE SHEET (thousands of Pesos)
Current assets
Total assets
Current liabilities
Total liabilities
Equity
Operational revenues
Total sales cost
Operational earnings
Earnings before taxes
Net earnings
Liquidity ratio
Total indebtedness
Return on equity

Figure 8.3 (a)

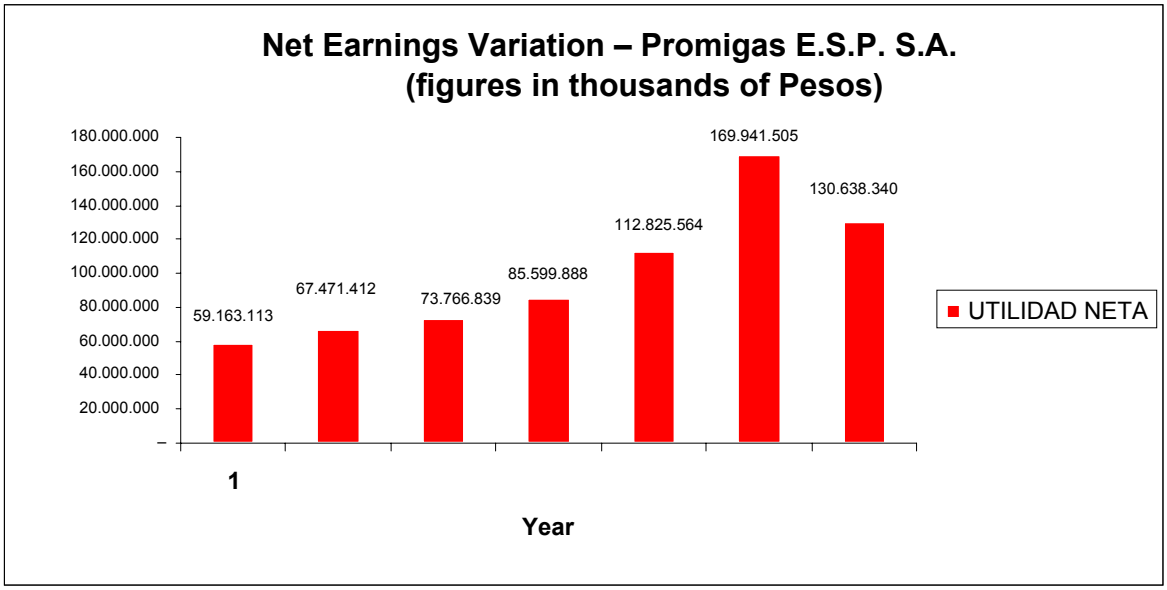


Figure 8.3. (b)

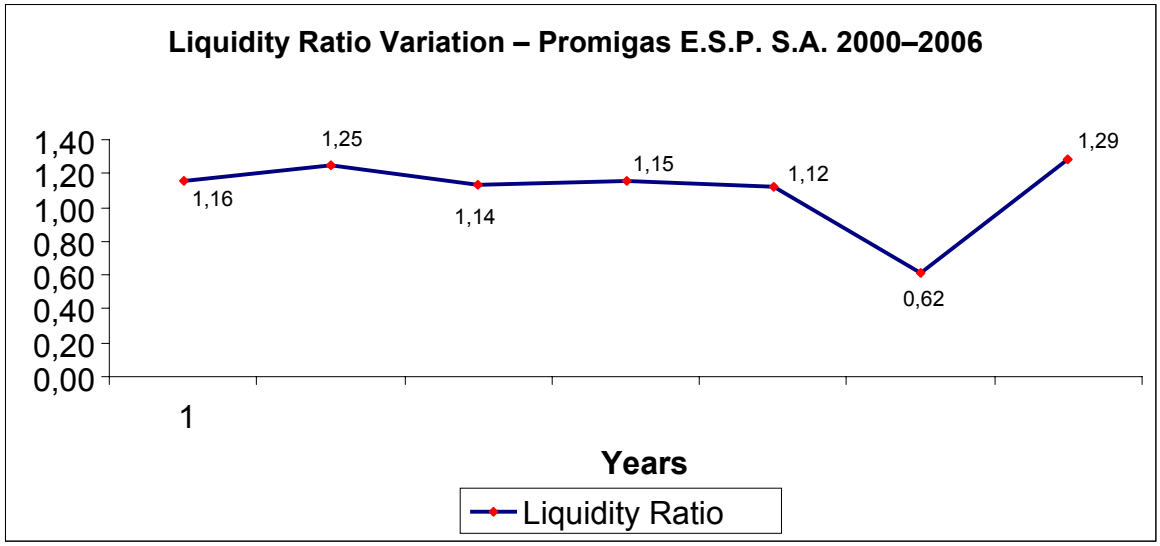
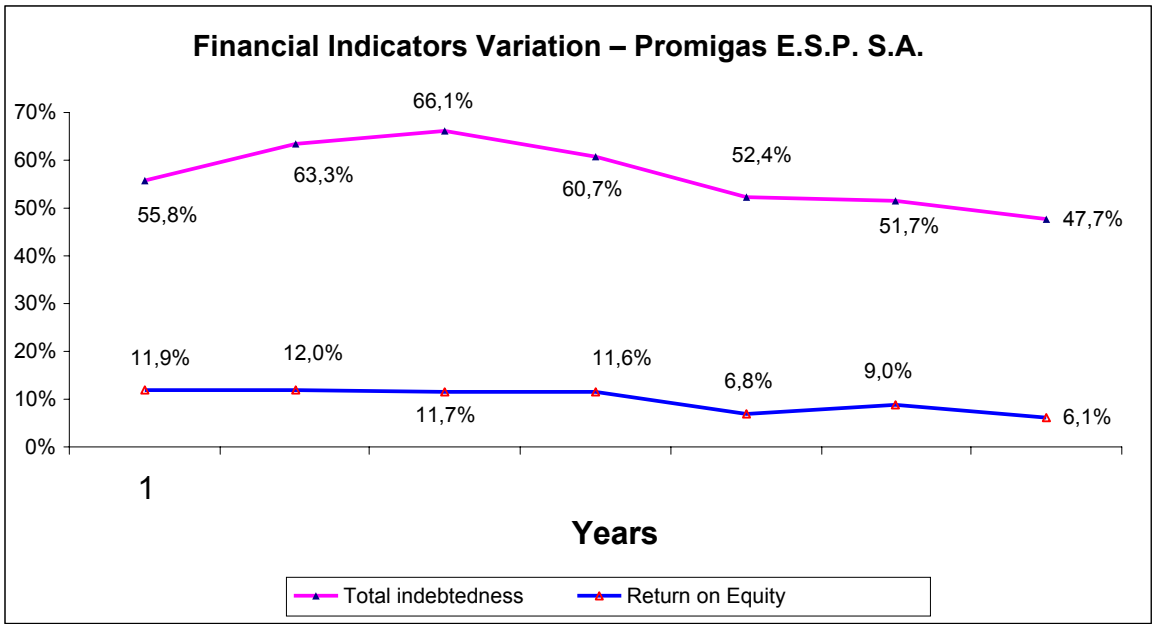


Figure 8.3 (c)



8.3. Role of the Companies

ECOPETROL continues playing an important role, having a notable production of oil, gas and LPG. It operates two largest refineries –Cartagena and Barrancabermeja– and is the owner of most of the oil and propane pipelines. However, it has lost much of its strength as it does not participate in gas pipeline construction or in natural gas and oil product distribution. It does not define fuel prices or the exploration policy and is subject to government controls at all levels, being controlled by Congress, the Comptroller General of the Republic and the Attorney General. In this regard it has been at a disadvantage to private enterprises that are not subject to public control.

In the past ten years, private enterprises have been gaining ground on ECOPETROL in all spheres due to the privatization policies of the different administrations and the restrictions imposed on it that shrink its spheres of action through excessive control over its operation, expenses and investments. The duties of technical standards, regulation and control are exercised by different entities (Ministry of Mines and Energy, CREG and SSPD), such that the enterprises, whether State–owned, private or mixed, must submit to them, except that for State–owned enterprises there are other controls for public entities that concentrate on contracting and oversight.

In Colombia one can say that private enterprises do not operate in an environment of inferiority vis–à–vis the State–owned enterprises. Rather, the situation is the opposite: State–owned enterprises operate within an environment of control and oversight that private companies do not have. Fortunately, with the enactment of the Public Utilities Law of 1994, natural gas commercialization and transportation services were defined as public utility companies with the status of private enterprises, in such wise that the conditions of State–owned enterprises were equaled to those of private companies in important aspects such as contracting and managing its employees.

ECOPETROL, as a State enterprise, kept its status as a public company governed by public regulations, with the related contracting restrictions. However, with the creation of the *Agencia Nacional de Hidrocarburos* and the sale of 20 % of its shares, it became a mixed–economy enterprise and gained agility to compete in equal conditions with private companies. This is precisely the difference with ISA, EPM and EEB, which under the Public Utilities Law began to act as private enterprises since 1995, allowing them to compete domestically and internationally.

Colombia, in contrast to many countries of Latin America and the Caribbean, did not enforce a generalized privatization policy. There are private, State and mixed companies in the hydrocarbons sector, with the same importance today, subject to the same rules and regulations, which play important roles in exploration and operation, transportation and commercialization. Restrictions on private enterprises have disappeared entirely except for importing oil, as this situation has not been seen since 1986, having been no need to import oil and because all refineries are State–owned.

The role of the companies in each activity is shown in Table 8.5. Until late 2005 or 2006, in the production of oil, natural gas, LPG, refining, and transportation via oil, product and gas pipelines, the public sector was predominant. In terms of derivatives and LPG distribution, the public sector had a 10 % share and for natural gas it was 95 %. With the completion of the expansion works in the Cartagena refinery, the private sector share will jump from 4.2 % to 21.2 %.

Table 8.5 – Private and Public Sector Role in Oil & Gas – 2005

ACTIVITY	%
Oil production	
Private	64.8
Public	35.2
Natural gas production	
Private	37.0
Public	63.0
LPG production	
Private	0.0
Public	100.0
Transportation via gas pipelines	
Private	45.1
Public	54.9
Transportation via oil pipelines	
Private	43.9
Public	56.1
Transportation via product pipelines	
Private	0.9
Public	99.1
Refining	
Private	4.2
Public	95.8
Natural gas marketing	
Private	95.0
Public	5.0
Retail derivatives marketing	
Private	100.0
Public	0.0
LPG marketing	
Private	100.0
Public	0.0

Source: Calculations with data from the CREG, ECOPETROL, TGI, PROMIGAS, and the Ministry of Mines and Energy

9. PERFORMANCE INDICATORS

9.1. Operational Indicators

9.1.1. Exploration

During the 2000–2005 period, exploration investments went from 111.6 million to 263.1 million, mostly through companies partnering with ECOPETROL (Table 9.1).

Table 9.1

Histórico inversiones exploratorias 1978 – 2005								
INVERSIONES EXPLORATORIAS ASOCIADOS (MUS$)				INVERSIONES EXPLORATORIAS ECOPETROL (MUS$)				INVERSIONES EXPLORACIÓN ECP + SOCIOS (MUS$)
AÑOS	PERFORACIÓN EXPLORATORIA	EXPLORACIÓN SUPERFICIE (Sísmica y Estudios)	SUBTOTAL ASOCIADOS	GEOFÍSICA (Sísmica y Reproceso)	PROYECTOS Y ESTUDIOS GEOLÓGICOS	PERFORACIÓN EXPLORATORIA	SUBTOTAL ECOPETROL	TOTAL
2000	62,1	23,46	85,6	6,6	2,3	17,1	26,0	111,6
2001	170,7	91,7	262,4	8,5	3,9	7,5	19,9	282,3
2002	85,7	58,9	144,6	31,4	9,4	21,9	62,7	207,3
2003	105,4	31,3	136,7	20,0	1,4	31,5	52,9	189,5
2004	103,5	23,5	127,0	30,0	28,6	33,3	91,9	218,9
2005	**148,2**	**18,9**	**167,1**	**31,5**	**5,8**	**58,8**	**96,04**	**263,1**

Source: ECOPETROL. Oil Industry Statistics

History of investments in exploration 1978 – 2005								
Partnership Exploratory Investments (M US$)				ECOPETROL Exploratory Investments (M US$)				ECP + Partner Expl. Inver. (M US$)
Years	Exploratory Drilling	Surface Exploration (Seismic & Studies)	Partner Sub–total	Geophysics (seismic and reprocess)	Geological Projects & studies	Exploratory Drilling	ECOPETROL Sub–total	Total

One indicator for the exploration business is the number of exploration contracts signed, which grew from 2000 to 2006, especially in 2005 and 2006, changing the trend in former years and boding well for intense activities in the coming years (Table 9.2). There are two possible interpretations for this increase in contracts: attraction to the new oil contract and/or the effect of the high oil prices that incentivise exploration.

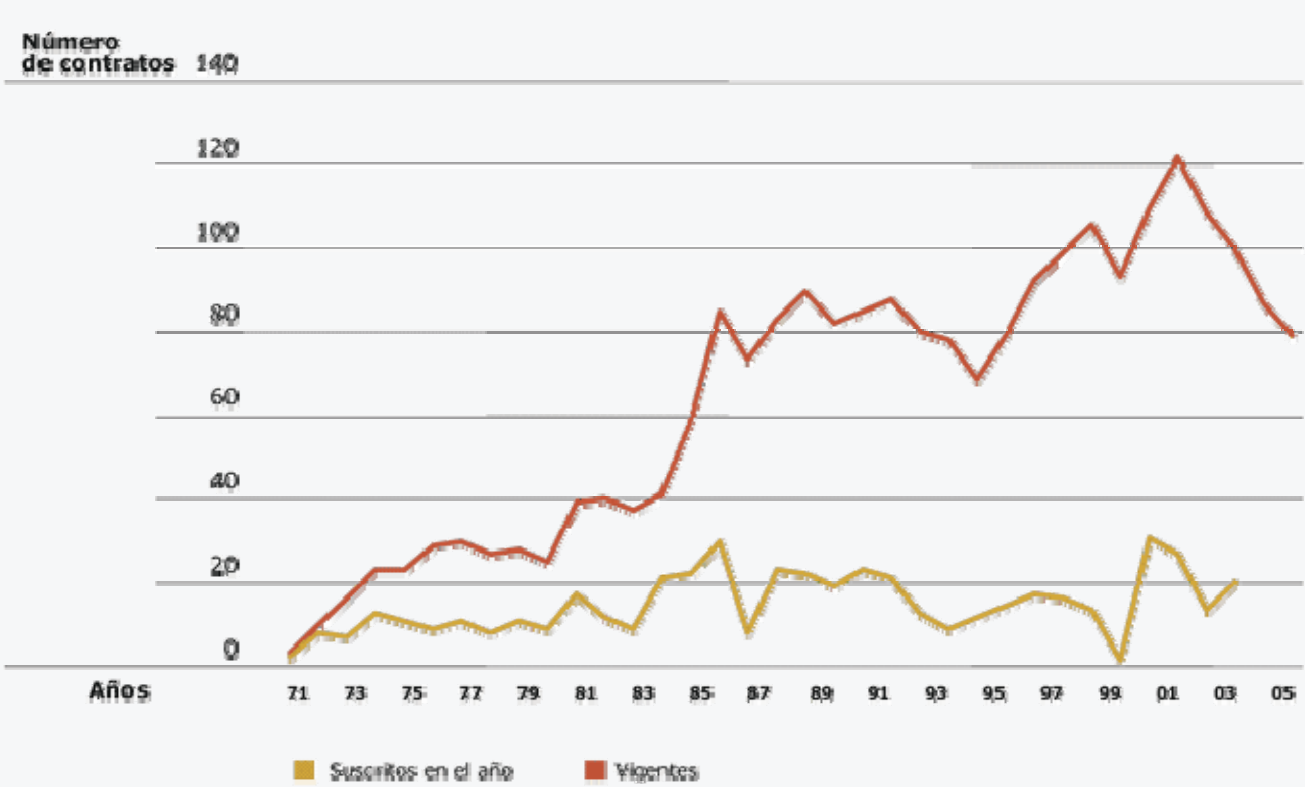
Table 9.2

PARTNERSHIP CONTRACT HISTORY		
YEAR	SIGNED EACH YEAR	ONGOING
55	1	1
70	2	3
71	8	10
72	7	17
73	13	24
74	11	24
75	9	30
76	11	31
77	8	28
78	11	29
79	9	26
80	18	41
81	12	42
82	9	39
83	22	43
84	23	61
85	31	89
86	8	77
87	24	87
88	23	94
89	20	86
90	24	89
91	22	92
92	13	84
93	9	82
94	12	72
95	15	83
96	18	97
97	17	104
98	14	111
99	1	98
00	32	115

PARTNERSHIP CONTRACT HISTORY		
YEAR	SIGNED EACH YEAR	ONGOING
01	28	128
02	14	114
03	21	105
04	21	91
05	31	83
06	58	
TOTAL	609	

Source: ECOPETROL. Oil Industry Statistics

Figure 9.1 – Exploration Contract History



Number of Contracts	
Years	
Signed each year	Ongoing

Source: ECOPETROL. Oil Industry Statistics

In addition to the number of contracts signed, one indicator that reflects the oil business is the number of A3 exploratory wells (wild cat wells) as shown on Table 9.3., whose number has been fairly low. Of the total exploratory wells, those of ECOPETROL are truly ridiculous, which is a consequence of governmental policies over at least thirty years of limiting the company's resources for exploration. However, the total has never surpassed 28 wells during the 2000–2005 period. According to statements of ECOPETROL and the government, this is not enough to find important oil & gas reservoirs. The governmental policy, not the regulations, is responsible for the terrible ECOPETROL indicators for exploration.

Table 9.3
A3 Exploratory Wells in the 2000–2006 period

Years	Exploratory wells in partnership	ECOPETROL wells	Total
2000	16	0	16
2001	12	1	13
2002	9	1	10
2003	25	3	28
2004	20	1	21
2005	25	8	23

Source: Ibid

9.1.2. Development

Associated to the number of contracts signed with partnering companies is the history of development wells drilled, as shown in Table 9.4. These increased during the eighties through the Caños Limón discovery in Arauca, with a maximum of 292 wells in 1985. they dropped off over the following years until 2002 and were reactivated from 2003 onwards. After Caños Limón in the eighties and Cusiana and Cupiaga in the nineties, there have been no important oil discoveries in Colombia except for minor fields, secondary recuperation and incremental production of existing fields.

Table 9.4

HISTORY OF DEVELOPMENT DRILLING, 1983 – 2005										
YEAR	ECOPETROL		PARTNERSHIP		CONCESSION		TOTAL		VARIATION %	
	No. of WELLS	K FEET	No. of WELLS	K FEET	No. of WELLS	K FEET	No. of WELLS	K FEET	No. of WELLS	FEET
1983	115	604.30	58	211.30	40	248.60	213	1064.20	41.10	32.50
1984	150	702.10	38	145.50	42	292.60	230	1140.20	7.98	7.14
1985	169	840.60	70	303.40	53	356.30	292	1500.30	26.96	31.58
1986	216	1090.20	22	100.40	30	252.40	268	1443.00	–8.22	–3.82
1987	46	217.60	24	116.00	22	205.60	92	539.20	–65.67	–62.63
1988	104	358.00	62	303.86	33	276.84	199	938.70	116.30	74.09
1989	13	89.22	103	361.27	24	158.24	140	608.73	–29.65	–35.15
1990	8	67.90	78	288.70	22	154.80	108	511.40	–22.86	–15.99
1991	5	44.00	76	269.56	3	0.00	84	313.56	–22.22	–38.69
1992	4	25.70	35	185.60	0	0.00	39	211.30	–53.57	–32.61
1993	0	0.00	31	200.00	0	0.00	31	200.00	–20.51	–5.35
1994	1	0.00	39	297.30	0	0.00	40	297.30	29.03	48.65
1995	2	26.22	42	424.38	0	0.00	44	450.60	10.00	51.56
1996	2	12.10	65	747.10	0	0.00	67	759.20	52.27	68.49
1997	1	13.68	91	683.40	0	0.00	92	697.08	37.31	–8.18
1998	0	0.00	65	512.70	0	0.00	65	512.70	–29.35	–26.45
1999	4	38.20	59	524.90	0	0.00	63	563.11	–3.08	9.83
2000	4	39.83	88	616.23	0	0.00	92	656.06	46.03	16.51
2001	11	117.91	130	228.05	0	0.00	141	345.96	53.26	–47.27
2002	15	128.04	67	270.50	0	0.00	82	398.54	–10.87	–39.25
2003	16	121.15	152	0.00	0	0.00	168	121.15	19.15	–64.98
2004	22	174.02	126	0.00	0	0.00	148	174.02	80.49	–56.34
2005	53	401.66	152	693.93	0	0.00	205	1095.58	22.02	804.32

Source: *ECOPETROL S.A.*, Vice–president of Production

Investments in development grew from 2000 to 2001 and dropped off in 2002 and 2003, recovering from 2004 to 2006 (Table 9.5).

Table 9.5

Histórico inversiones de desarrollo socios en el país 1977 – 2005	
INVERSION DE DESARROLLO SOCIOS EN EL PAIS - MUS$ 1977 - 2005	
AÑO	**INVERSION**
2000	334,29
2001	520,77
2002	424,19
2003	313,02
2004	571,05
2005	N.D.
Fuente: Banco de la República	

History of Investments in Development Partners in the country 1977 – 2005	
Investments in Development Partners in the country – M US$ 1977 – 2005	
Year	Investment
Source: *Banco de la República*	

9.1.3. Domestic Crude Oil Production

Domestic crude oil production has been decreasing since 2000 due to the depletion of existing fields and lack of discoveries of large new oil reserves, from 687,303 BP to 529,374 BPD in 2005 (Table 9.6). By type of contract, direct production by ECOPETROL grew, and partnership and concession contracts fell. These figures show that this State–owned enterprise has done excellent work in recent years, having reversed the downward trend in its production.

Table 9.6

YEARLY CRUDE OIL PRODUCTION B.P.D.C.							
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Direct	122 815	127 590	115 004	113 045	126 687	138 308	157 450
Partnership	546 370	503 285	443 116	409 076	384 602	337 996	325 970
Concession	18 119	23 775	20 348	19 203	15 995	15 858	5 573
CDND	0	0	0	0	975	2 527	3 638
ANH	0	0	0	0	0	31 112	35 540

OTHERS	0	0	0	0	0	310	1 203
Total Production	**687 303**	**654 651**	**578 468**	**541 324**	**528 260**	**526 111**	**529 374**

Source: ECOPETROL. Volumetric Oil industry Statistics

Oil reserves from 1990 to 2006 show an increase from 1990.7 million barrels in 1990 to 3156.4 million barrels in 1993, then a continual decrease from 1994 forward, reaching 1453.3 million barrels in 2005 (Table 9.8).

Table 9.8

HISTORY OF OIL RESERVES AND PRODUCTION 1990 – 2005 (MBBL)								
YEAR	ORIGINAL RESERVES	PRODUCTION		RESERVES				USEFUL LIFE IN YEARS
		ANNUAL	ACCRUED	DISCOVERED	REASSESSED	REMAINDER		
1990	5 073.6	160.4	3 156.5	46.5	120.4	1 990.7		12.4
1991	5 122.8	155.3	3 311.8	57.0	–7.8	1 884.6		12.1
1992	6 630.0	159.9	3 471.7	1 484.7	22.5	3 231.9		20.2
1993	6 719.7	165.2	3 636.9	13.8	75.9	3 156.4		19.1
1994	6 867.4	165.7	3 802.6	5.0	142.7	3 138.4		18.9
1995	6 894.0	213.0	4 015.6	14.7	11.9	2 951.9		13.9
1996	6 969.1	229.0	4 244.7	0.0	75.1	2 798.0		12.2
1997	6 982.9	238.1	4 482.7	0.0	13.8	2 577.2	(1)	10.8
1998	7 231.9	275.8	4 758.5	92.9	0.0	2 477.7		9.0
1999	7 339.1	296.7	5 055.2	4.1	106.4	2 289.2		7.7
2000	7 272.4	250.7	5 305.9	13.2	–79.9	1 971.9		7.9
2001	7 357.4	219.6	5 525.6	27.0	63.9	1 842.3		8.4
2002	7 358.2	209.3	5 734.9	33.6	–3 207.0	1 631.7		7.8
2003	7 465.9	196.7	5 931.5	6.6	98.0	1 542.5		7.8
2004	7 595.0	192.4	6 123.9	23.7	104.7	1 477.7		7.7
2005	7 761.1	189.6	6 313.5	22.6	–50.0	1 453.3		7.7

Source: *ECOPETROL S.A.*, Vice–president of Production

Note: Reserve standardization in progress. The 1997 data is for proven reserves, both developed and to be developed.

Figure 9.2.

Source: *ECOPETROL S.A.* – Production Vice–president

Reserves / Production Ratio 1921 – 2005
Years of production
Years

9.1.4. Oil Derivatives Production

The production of derivatives decreased from 275,320 BPD in the year 2000 to 256,033 BPD in 2005, due to the penetration of ethanol and vehicular natural gas, which was reflected in the drop in the production of gasolines. At the same time, diesel oil production grew because its consumption was incentivised by the price difference with regard to gasolines (Table 9.9).

Table 9.9

PRODUCTION OF DERIVATIVES B.P.D.C.							
Product	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Regular Gasoline	113 170	115 021	102 712	98 026	103 432	88 427	77 369
Extra Gasoline	909	3 497	6 261	12 083	11 233	8 983	4 766
SUB–TOTAL MOTOR GASOLINE	114 079	118 518	108 973	110 109	114 665	97 410	82 135
Benzene and Cooking Gasoline (*Cocinol*)	119	100	107	165	122	172	126
SUB–TOTAL GASOLINES	114 199	118 619	109 080	110 274	114 787	97 582	82 260
Diesel (ACPM)	61 937	66 357	64 870	65 513	72 870	72 469	83 222
Kerosene	583	444	414	2 994	702	311	307
JP–TO	22 635	24 745	24 746	26 767	20 590	20 000	17 592
SUB–TOTAL MEDIUM DISTILLATES	85 156	91 546	90 030	95 274	94 162	92 779	101 121
Jet fuel	402	388	189	863	875	1 394	1 064
Propanes	22 404	23 296	22 163	24 100	19 890	20 000	20 957
WHITE SUB–TOTAL	222 160	233 848	221 462	230 510	229 714	211 756	205 403
Fuel Oil	53 160	56 542	56 897	53 185	60 247	55 452	50 630
TOTAL	**275 320**	**290 390**	**278 360**	**283 696**	**289 961**	**267 208**	**256 033**

Source: ECOPETROL. Volumetric Oil industry Statistics

9.1.5. Refining

The country's refining capacity has not varied much since 1990 due to government policies forbidding ECOPETROL to build new refineries, in hopes that the private sector will take on this task. The long–term result will be negative, as the diesel and gasoline needs cannot be met with the current refineries. Imports of these two fuels for 2005 are estimated in the order of 85,000 BPD due to the lack of refining capacity (Table 9.10).

Table 9.10

CARGAS A REFINERIAS (BPDC)									
AÑOS	**BARRANCABERMEJA (1)**	**CARTAGENA (2)**	**Subtotal Refinación**	**TIBU**	**APIAY**	**ORITO**	**PLATO**	**Subtotal Exp & Pro**	**TOTAL ECOPETROL**
2000	217.177	69.705	286.882	0	2.394	1.600	0	3.994	**290.876**
2001	224.124	75.159	299.283	0	2.279	1.300	0	3.579	**302.862**
2002	211.886	73.919	285.805	0	2.328	1.100	0	3.428	**289.232**
2003	222.899	76.736	299.635	0	2.144	855	0	2.999	**302.634**
2004	227.192	78.367	305.559	0	1.807	704	0	2.510	**308.069**
2005	223.906	72.391	296.297	0	2.063	853	0	2.916	**299.213**

Source: *ECOPETROL S.A.*, Vice–president of Refining

LOADS TO REFINERIES (BPDC)									
Years	Barrancabermeja (1)	Cartagena (2)	Sub–total Refining	TIBU	APIAY	ORITO	PLATO	Sub–total E & P	Total Ecopetrol

9.1.6. Transportation

Crude oil transportation via oil pipelines has increased under ECOPETROL ownership and decreased under partnership contracts. The latter relate to the Caños Limón and Cusiana and Cupiaga fields, whose production has gone down, as seen in transportation via this type of oil pipelines built jointly by ECOPETROL and foreign companies (Table 9.11).

Table 9.11
Crude Oil Transportation via Oil Pipelines (KBPD)

SECTORES	2000	2001	2002	2003	2004	2005
OLEODUCTOS DE ECOPETROL						
Vasconia - Velásquez	18,0	21,3	21,9	25,0	26,1	26,7
Vasconia - Galan (GCB)	157,1	164,9	150,4	137,0	125,9	125,1
Galán - Ayacucho - Coveñas	15,2	16,2	29,8	35,7	36,6	39,2
Coveñas - Cartagena	71,2	63,4	82,8	92,5	101,6	95,4
Ayacucho - Galán (GCB)	7,2	0,0	7,4	23,9	33,5	30,8
Araguaney - El Porvenir	32,0	38,3	40,9	44,6	45,3	45,1
Apiay - El Porvenir	55,4	55,7	55,1	52,3	56,4	67,6
Porvenir - Vasconia (1)						
TOTAL	**356,1**	**359,8**	**388,3**	**411,0**	**425,4**	**429,9**
OLEODUCTOS EN ASOCIACION						
Caño Limón - Coveñas	96,3	52,7	58,7	72,3	96,6	90,3
Vasconia - Coveñas - ODC	122,3	103,6	89,5	57,9	44,4	58,6
Tenay - Vasconia	79,7	78,9	81,2	53,6	88,0	93,1
Vasconia - Coveñas - OCENSA	219,1	192,4	152,8	163,2	157,0	145,4
Porvenir - Vasconia - OCENSA	441,3	398,5	327,7	269,7	255,7	248,1
TOTAL	**958,7**	**826,1**	**709,9**	**616,7**	**641,7**	**635,5**

Source: Vice–president of Transportation – ECOPETROL

Sectors
ECOPETROL Oil Pipelines
Partnership Oil Pipelines

Oil & gas transportation through cabotage is mostly from the Tumaco port on the Pacific to the Cartagena refinery, coming from the Putumayo region (Table 9.12).

Table 9.12
ECOPETROL Sea Transport of Oil & Gas by Cabotage
(Kb / year)

PORTS OF SHIPMENT – DESTINATION	2000	2001	2002	2003	2004	2005
Tumaco – Cartagena (1)		1 868.4	2 317.0	2 316.4	1 139.4	387.5
Cartagena – Buenaventura (2)		480.2	702.3	160.2	187.8	
Cartagena – *Pozos Colorados* (3)	1 203.7		450.3			
Coveñas – Cartagena (4)						
Pozos Colorados – Buenaventura (5)				78.2		
Pozos Colorados – Cartagena (6)				110.0		
TOTAL	**1 203.7**	**2 348.7**	**3 469.6**	**2 664.8**	**1 327.1**	**387.5**

Source: Vice–president of Supply and Marketing – ECOPETROL.

(1) Orito crude oil to the Cartagena Refinery
(2) For consumption in the Western region of the country
(3) Virgin naphtha and motor gasoline surplus for Barrancabermeja
(4) Cusiana crude oil for the Cartagena Refinery
(5) Motor gasoline losses in the Cartagena Refinery
(6) Extra Gasoline

Loss of refined products is fundamentally due to theft. This started in the nineties and reached a maximum of 7270 BPD in 2002. As of 2003, actions of the police and the armed forces have been able reduce this criminal activity, reaching figures of less than 1000 BPD in 2006 (Table 9.13).

Table 9.11
Crude Oil Losses – KBPD

PERDIDAS DE COMBUSTIBLES EN ECOPETROL			
Año	Pérdidas Totales de Refinados	Pérdidas por Hurto de Refinados	Volumen de Pérdidas de Crudo
1992	2.135		
1993	1.918		
1994	1.727		
1995	1.030		
1996	848	239	16,2
1997	966	271	
1998	1.428	443	
1999	2.468	1.540	41,5
2000	5.478	4.514	
2001	6.244	5.846	
2002	7.408	7.270	5,6
2003	5.953	5.777	357,1
2004	2.985	2.942	65,5
2005	1.674	1.601	27,8

Source: Vice–president of Transportation – ECOPETROL

Fuel Losses in ECOPETROL			
Year	Total losses of refined products	Losses by Theft of Refined Products	Volume of Crude Oil Losses

9.1.7. Natural Gas Supply

Natural gas supply depends on demand, and specifically the needs of the power sector.

A large proportion of supply came from the Guajira gas partnership contract signed with TEXACO in the seventies, from 87.6 % in 2000 to 62.4 % in 2006. This decrease is due to a reduction in Guajira (interior) supply and an increase in natural gas production in Cusiana. This increase was expected, as it is not necessary to inject gas in order to maintain pressure in the Casanare reservoirs (Table 9.12).

Table 9.12.

NATURAL GAS SUPPLY MBTU / DAY							
Field	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Apiay	7 717	5 262	6 653	7 698	8 555	8 381	8 377
Cantagallo	1 756	2 042	1 726	1 797	1 894	2 741	3 609
Centro Oriente (Centro)	7 485	6 983	6 024	6 016	5 909	6 198	9 062
Cerrito 1	866	693	517	80			
Cicuco	0	0	0	0	0	0	0
Distrito Alto Magdalena	544	0	0	0	160	320	360
Llanito	1 336	830	928	974	1 111	1 073	1 355
Provincia / Bonanza	16 800	15 770	9 471	10 958	10 817	10 865	10 057
Rancho Hermoso						726	2 427
DIRECT SUB–TOTAL	**36 505**	**31 579**	**25 320**	**27 523**	**28 445**	**30 304**	**35 247**
Cerrito 1*				997	1 618	1 055	
Cusiana	15 113	17 947	20 490	18 989	22 242	21 613	14 767
Cusiana ** (Phase II)				30 119	57 269	100 880	100 981
Gas Casanare	1 106	275	393	464	445	420	17
Guajira (Interior)	466 103	491 632	506 231	282 695	165 552	145 583	82 062
Guajira Texas				188 464	301 602	319 325	212 322
Guepaje	11 238	10 169	8 604	6 669	5 052	4 364	2 070
Montanuelo	3 312	6 029	6 573	4 355	4 281	4 218	4 182
Montanuelo Petrotesting				2 903	2 854	2 805	
Opon	11 523	10 930	7 940	7 541	5 324	5 637	2 703
Payoa / Salina	23 874	21 238	17 881	14 402	15 278	16 359	7 197
Pinal					114	198	
Rio Ceibas	10 111	10 269	9 509	8 677	6 674	1 797	227
Toqui–Toqui	192	268	250	173	0	0	608
Toqui–Toqui Mercantile				118	0	0	
Pauto – Florena					2 894	8 509	8 912
PARTNERSHIP SUB–TOTAL	**541 557**	**568 757**	**577 871**	**566 567**	**591 199**	**632 763**	**436 049**
TOTAL SUPPLY	**578 062**	**600 335**	**603 191**	**594 090**	**619 645**	**663 067**	**471 296**

Source: ECOPETROL – Volumetric Oil industry Statistics

9.1.8. Exports

The crude oil exports have been dropping since the year 2000 due to declines in the production of the Arauca and Casanare fields of and ECOPETROL's needs to supply its refineries. As production falls, ECOPETROL and its partners have less of their own oil, and since the priority is domestic supply, surplus for export goes down (Table 9.13).

Table 9.13.

CRUDE OIL EXPORT VOLUMES BY COMPANY B.P.D.C.							
Company	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
ECOPETROL	175 084	124 045	115 088	73 055	70 305	78 064	79 608
BP EXPLORATION	16 231	5 019	2 704	5 026	6 801	9 773	7 364
BRASPETRO	18 250	4 966	3 968	3 843	3 962	3 956	3 151
CUSIANA BP	5 077	41 758	45 830	46 105	46 769	38 317	35 902
CUSIANA TOTAL (TEPMA)	1 435	39 840	30 647	24 816	20 157	11 994	11 292
CUSIANA TRITON	1 246	26 017	21 666	6 236	0	0	0
HOMCOL INC.	1 853	1 630	1 332	1 564	1 322	1 058	1 011
HOUSTON OIL COLOMBIA S.A.	109	18 883	17 193	15 020	14 680	19 949	24 781
LASMO OIL COLOMBIA LIMITED	0	5 566					
PETROBRAS (ESPINAL – LLANOS)			4 855	7 604	9 102	12 780	13 688
LOUISIANA LAND & EXPLORATION	199	1 563	779	0	0	0	0
OCCIDENTAL ANDINA INCORPORADA	6 732	5 758	19 729	18 579	18 554	19 454	17 397
OCCIDENTAL DE COLOMBIA INC.	51 392	5 514	22 831	19 206	17 201	15 814	19 080
PERENCO (KELT)	50 995	2 769	4 498	5 154	4 809	4 312	4 137
TEPMA	34 256	334	379	279	0	3 314	0
SIPETROL				3 085	4 028	2 337	1 735
TRITON	18 160	371	279	254	0	0	0
TOTAL	**383 874**	**284 033**	**291 778**	**229 828**	**217 689**	**221 122**	**219 147**

Source: ECOPETROL. Volumetric Oil industry Statistics

9.1.9. Imports

Crude oil imports of are very small, as seen in Table 9.14.

Table 9.14.

CRUDE OIL IMPORT VOLUMES – ECOPETROL B.P.D.C.							
Imports	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
TOTAL IMPORTS	**9 237**	**9 773**	**10 465**	**8 712**	**7 056**	**16 219**	**14 163**

Source: ECOPETROL. Volumetric Oil industry Statistics

9.2. Monetary statistics

9.2.1 Transfers to the State

Transfers to the State from the hydrocarbons sector in general and from ECOPETROL in particular were on the rise during the 1984–2005 period. The Sate has been favored in financing central and regional governmental budgets, but with damaging results for ECOPETROL as it has not been left the resources needed to invest in exploration. This is seen in the few exploratory wells per year, the failure to update the Barrancabermeja and Cartagena refineries, and the restrictions for the company to invest in different areas of the oil business at the level by which an oil company is measured. Reserves have dropped since 1995, with the danger that exports will cease on the medium term and the country will no longer be self–sufficient for oil.

Total transfers in the form of taxes and dividends delivered to ECOPETROL went from US$ 5,234,746 million in 2000 to US$ 7,331,207 million in 2005. This means is an annual growth rate of 7.0 %, which is very similar to that of the yearly inflation rate (Table 9.15).

With regard directly to ECOPETROL, government transfers have been through income taxes and dividends, which grew for US$ 1.059,231 million in 2000 to US$ 2,156,671 million in 2005, a yearly increase of 15 % over the average inflation rate of 7 %. For 2005, these transfers represented 48 % of all earnings before taxes, which is a clear indication of ECOPETROL's role in helping finance the National Government, but also of the negative effect to the company because it kept it from implementing an aggressive exploration plan.

Table 9.15
Transfers to the State

(in millions of Pesos)

TRANSFERENCIAS																					
Impuesto a las ventas	6.889	7.936	8.841	10.593	14.760	17.107	25.122	46.245	59.954	91.317	116.210	132.879	154.892	184.212	192.500	269.800	525.715	630.165	606.764	592.475	719.500	847.784
Impuesto vial (Global)	31.060	38.081	46.745	49.988	79.141	104.303	141.271	191.027	268.565	322.020	411.065	472.069	806.262	824.846	778.800	880.500	1.031.215	1.107.242	977.900	1.023.482	1.055.800	1.143.305
Contribución descentralización										37.147	77.123	107.571	31.289	27								
Impuesto consumo de gasolina	153	336	521	361	446	613	923	1.248	1.506	1.963	2.414	2.746										
Retenciones en la fuente													54.756	73.580	90.500	97.400						
TOTAL TRANSFERENCIAS	**38.102**	**46.353**	**56.107**	**60.942**	**94.347**	**122.023**	**167.316**	**238.520**	**330.025**	**452.447**	**606.812**	**715.265**	**1.047.199**	**1.082.665**	**1.061.800**	**1.247.700**	**1.556.930**	**1.737.407**	**1.584.664**	**1.615.957**	**1.775.300**	**1.991.089**
TOTAL IMPUESTOS Y TRANSFERENCIAS	**60.229**	**100.820**	**104.330**	**171.087**	**247.965**	**367.841**	**631.578**	**804.885**	**860.242**	**1.060.832**	**1.250.985**	**1.631.919**	**2.237.432**	**2.518.471**	**2.163.400**	**2.736.078**	**5.234.748**	**5.397.719**	**5.474.978**	**5.683.869**	**6.391.118**	**7.331.297**

NOTA:

El valor de Regalías, Impuesto de Renta e Impuesto de Producción que se presenta, corresponde al valor pagado.
El valor de Electrificadoras, corresponde a Compensaciones Económicas que incluye subsidios y aportes de Electrificadoras. Cocinol, Importación de Gasolina, etc.
Subsidio de combustibles: Desde el año 1999 existe un subsidio economico a los combustibles por diferencia entre el precio al productor y el precio de paridad de importación:1999 $529 Millardos; 2000 $2.432 Millardos; 2001 $1.984 Millardos y para el 2002 $1.520 Millardos reales al mes de septiembre con proyección a diciembre.

TRANSFERS
Sales tax
Road tax (global)
Decentralized contribution
Gasoline consumption tax
Withholdings at the source
Total transfers
Total taxes and transfers

Source: ECOPETROL. Oil industry Statistics

9.2.2 ECOPETROL Investments by Areas

ECOPETROL's investments took a forward leap in 2003 after continual investment in nominal securities that were decreasing in real terms from 1995 to 2002 (Table 9.16).

A detail of these investments shows that in 2004 and 2005, the largest percentage was in assets other than exploration, operation, transportation, and refining. Those relating to direct exploration and production grew from 2001 onward due to intensified activities to increase the production of existing fields because exploration levels remained low.

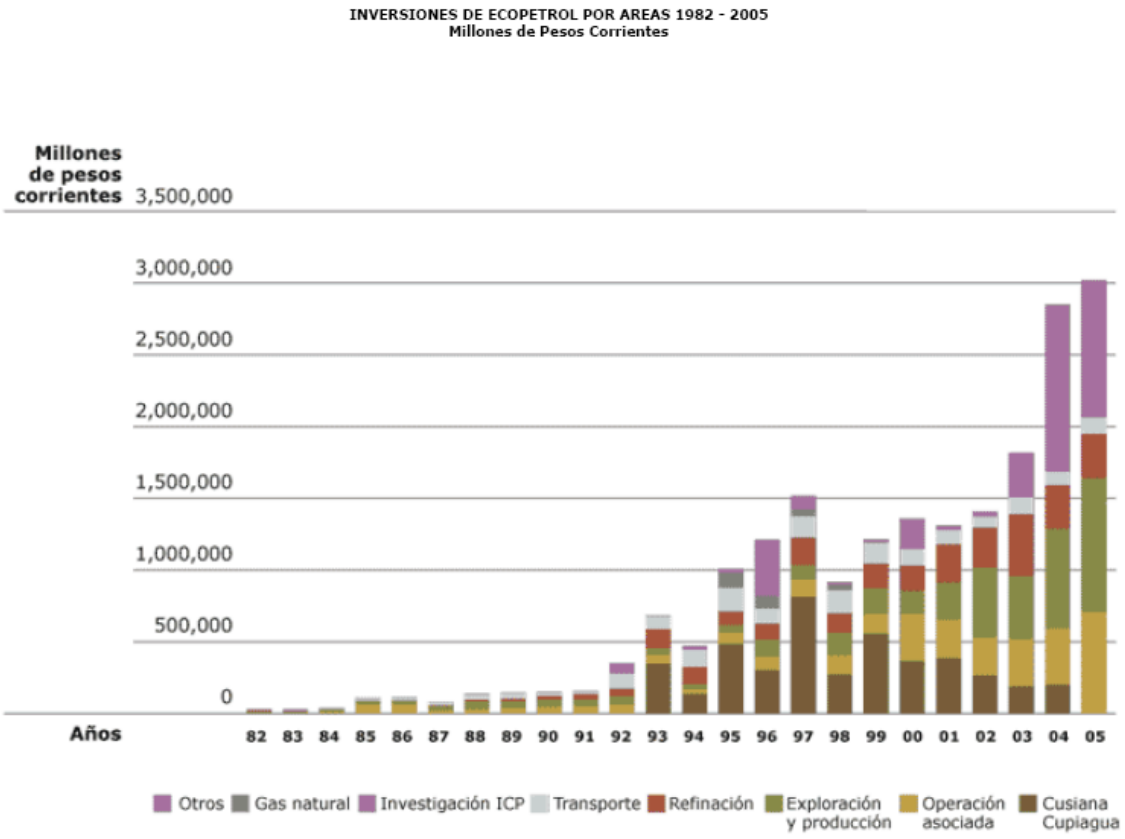
Table 9.16

INVERSIONES DE ECOPETROL POR AREAS 1982 - 2005 Millones de Pesos Corrientes									
AÑOS	CUSIANA CUPIAGUA	OPERACION ASOCIADA	EXPLORACION Y PRODUCCION	REFINACION	TRANSPORTE	INVESTIGACION ICP	GAS NATURAL	OTROS	TOTAL
1982	0	2.041	8.656	3.918	6.815	0	0	92	21.522
1983	0	3.805	8.131	3.311	6.813	0	0	224	22.284
1984	0	4.842	13.327	3.064	7.248	0	0	142	28.623
1985	0	65.611	22.484	3.366	13.495	0	0	1.217	106.173
1986	0	53.634	29.112	6.261	16.391	115	0	1.011	106.524
1987	0	18.154	24.176	9.861	17.688	167	0	1.327	71.373
1988	0	16.707	57.033	13.998	45.409	1.065	0	3.608	137.820
1989	0	24.759	57.874	22.165	33.518	2.632	0	2.606	143.554
1990	0	39.371	46.661	30.986	20.624	2.819	0	1.930	142.391
1991	0	47.334	41.813	40.483	15.363	2.310	0	3.155	150.458
1992	0	44.867	58.136	54.550	100.924	5.110	0	71.304	334.891
1993	331.823	59.195	43.247	139.177	80.204	5.876	0	10.646	670.167
1994	127.224	37.665	24.273	121.365	127.224	4.264	0	14.987	457.002
1995	499.033	63.296	47.702	88.065	163.287	2.131	110.462	19.885	993.860
1996	290.600	93.700	124.300	111.300	95.900	3.500	103.400	377.100	1.199.800
1997	801.160	115.231	94.578	199.037	140.904	6.979	60.480	84.322	1.502.691
1998	272.350	118.241	151.603	153.021	158.504	7.134	24.410	27.446	912.709
1999	556.395	120.044	192.236	164.401	147.631	3.200	0	19.051	1.202.959
2000	342.607	339.199	156.823	183.140	95.256	5.090	0	227.018	1.349.132
2001	383.000	249.100	261.500	273.400	100.500	8.900	0	22.600	1.299.000
2002	250.145	271.217	478.416	292.253	72.190	6.227	0	27.365	1.397.813
2003	182.471	327.124	441.259	427.939	102.735	7.231	0	318.227	1.806.986
2004	206.966	364.722	700.820	308.850	74.745	8.915	33	1.170.424	2.835.476
2005	0	682.850	939.483	320.161	83.906	11.575	0	969.144	3.007.119

ECOPETROL INVESTMENTS BY AREAS 1982 – 2005									
YEARS	CUSIANA CUPIAGUA	PARTNER-SHIP OPERA-TION	EXPLORA-TION AND PRODUCTION	REFINING	TRANSPOR-TATION	ICP RESEARCH	NATURAL GAS	OTHERS	TOTAL

Source: ECOPETROL: Oil industry Statistics

Figure 9.3



ECOPETROL INVESTMENTS BY AREAS 1982 – 2005
Millions Of Current Pesos
Years
Others, natural gas, ICP Research, Transportation, Refining, exploration and production partnership operation, Cusiana Cuiagua

Source: ECOPETROL. Oil industry Statistics

10. REVIEW AND CONCLUSIONS OF THE REGULATORY FRAMEWORK

The above chapters offered a detailed description of different aspects of the Colombian oil & gas industry as summarized below.

The regulatory framework for the hydrocarbons sector was amended by the Public Utilities Law No. 142 for matters relating to natural gas, which affected ECOPETROL and, in terms of oil, by the 2002 royalties regime amendments, creation of the *Agencia Nacional de Hidrocarburos*, issuance of the New Oil Contract in 2004, and privatization policies promoted since 1991.

From the viewpoint of a State–owned enterprise such as ECOPETROL, these different changes have been geared towards dismantling it, taking away activities such as natural gas transportation and marketing, building refineries and distributing derivatives. This is contrary to the ideal of a multinational oil company that manages the entire hydrocarbons chain and

makes incursions into other energy sub–sectors. Additionally, the policies of the different administrations over the past twenty years have limited its availability of oil revenues needed to implement ambitious exploration plans. This has resulted in a minimum of exploratory activity and very few oil & gas discoveries since the nineties.

As for the private sector, current regulatory norms favor it with regard to the above, because it has broadened its field of action by enabling it to enter any phase of the non–governmental organization business with regulations that do not discriminate against it. Formerly. In order to explore and exploit a field it was mandatory to enter into a partnership with ECOPETROL. This is no longer the case with the creation of the *Agencia Nacional de Hidrocarburos* and the New Oil Contract of 2004.

Additionally, the 2002 amendment in royalty calculations was an answer to pressures from the private oil sector, which argued that a constant royalty of 20 %, regardless of the discovery size, did not incentivise the search for small and medium oil reservoirs. Hence a variable royalty was approved, which grew as the size of the discovered field increases, with royalties ranging from 8 % to 25 %.

The response to these amendments is difficult to assess for the oil sub–sector, as only four years have passed since the royalties reform, and two since the oil contract amendment. There is more activity in signing exploration contracts, but not enough to state that there has been a trend change. Furthermore, it is very difficult to separate the factor of high oil prices, the variable that brings most investments in exploration, from the effect of regulatory changes.

For the natural gas sub–sector, regulatory norms have brought stability and order, since price policies are made every five years and the freedom of entry has attracted private investments, which has caused an increase in coverage and good service.

These regulatory and policy changes have had private sector support because they have made norms more flexible, opened the doors, and eliminated restrictions that formerly favored the public sector.

In reality, although before 2004 ECOPETROL had a monopoly on exploration, the most debilitated company has been ECOPETROL. Over the past decades, its role has been diminished in favor of the private sector through privatization measures in the natural gas, fuel marketing, transportation and refining sub–sectors. Likewise, the government has restricted its use of oil surpluses and left it very few resources to invest in exploration. The hope is that by becoming a mixed company it will have greater freedom of action and will become a true oil company with investments throughout the hydrocarbons chain.

The new regulatory framework for the Colombian hydrocarbons sector has its roots in the Political Constitution of 1991, several of whose articles ensure the equality of private and public sectors in providing goods and services.

As a consequence of the Constitution and of the environment in the nineties with the Washington Consensus, Colombia approved Public Utilities Law No. 143. In 2003 the *Agencia Nacional de Hidrocarburos* was created, and in 2004 the New Oil contract was institutionalized, giving birth to new norms for the natural gas and oil sub–sectors.

These norms reinstated competition between the public and private sectors and introduced competition and efficiency as key elements.

Under Decree Law 1760 of June 26, 2003, ECOPETROL became a public stock company or limited liability corporation linked to the Ministry of Mines and Energy, a decision that was necessary in order to bring in private capital.

Law No. 1118 of December 27, 2006, authorized ECOPETROL to make an issue of shares for 20 %. Its Article 2 determines that when this emission has been made effective, the enterprise will become a mixed public–private commercial company linked to the Ministry of Mines and Energy.

Pursuant to Article 6, all required legal procedures, contracts and actions will be governed by private law, and the labor regime for all of its public servants will be the same as for private workers.

Thus, through Law No. 1760, ECOPETROL gained flexibility in the way it contracted goods and services and managed its personnel, but having a majority of public capital, it continued under National Government oversight. In any case, this situation benefited ECOPETROL considerably in comparison to before this law was issued.

In the former regulatory framework, the private sector had unequal conditions to ECOPETROL, as it was mandatory to partner with the State–owned enterprise for exploration and exploitation. Under the new 2004 regulatory framework, this limitation has been removed, which is an incentive for private enterprise to do business in Colombia.

In three indicators –exploration investments, signed contracts, and exploratory wells– there is a small upward shift from 2002 on. The investments of the partner enterprises went from US$ 85.6 million in 2001 to US$ 167.1 million in 2005 and those of ECOPETROL went from US$ 26 million to US$ 96.04 million, respectively (see tables in Chapter 9 on performance indicators).

The number of new contracts signed dropped from 28 in 2001 to 21 in 2004, rising again in 2005 and 2006 to 31 and 58, respectively.

The number of exploratory wells grew from 13 in 2001 to 28 in 2004, returned to 23 in 2005, but for 2006 and 2007 there is talk of numbers over 30. ECOPETROL's growth stands out, from 1 to 3 between 2001 and 2004, to 8 in 2005.

These indicators are a sign of oil sector reactivation, which could be attributed to the new contracting regulations and safer investment climate, but also to the higher oil prices, which is the greatest incentive to explore.

11. LESSONS LEARNED, COMMENTS AND SUGGESTIONS

1. In the Colombian case, oil companies were free to enter hydrocarbons exploration and operation the business, provided they did so with ECOPETROL, until the New Oil Contract arrived in 2004. In this regard, the private enterprises had their freedom restricted, as they could not act alone.

2. The development of the Colombian hydrocarbons sub–sector as of 1991, when Colombia's new Constitution was approved, is an example of applying privatization, deregulation and open market policies.

   The focus was based on the separation of activities, as was done in the power sector with generation, transmission, distribution and marketing. Accordingly, in the case of ECOPETROL the idea was applied to create a different company for natural gas transportation, proscribe its natural gas and derivatives distribution businesses, forbid its building new refineries and expanding existing ones or build new oil pipelines.

3. Several of the decisions could not be rationalized as a separation of activities, such as in the power sector, but were in response to political concepts of weakening the company through the existence of a very combative, radical trade union.

   These purposes were achieved by selling ECOPETROL's natural gas distribution shares in companies such as *Gas Natural de Bogotá*, selling its stock in the TERPEL service stations and transferring its network of gas branch pipelines to the company created for that purpose in 1997, ECOGAS. ECOPETROL's investments in oil pipelines were restricted and, as for refining, all proposals of building new refineries enhancing existing ones were frozen. Such is the case with the Cartagena refinery, where it was decided that the expansion would have to be done by a foreign private enterprise.

4. Oil exploration also suffered since the company's resources for this activity were limited with the argument that it was a very risky activity and that it was better to leave it to private companies. The result was a decrease in exploration and a drop in reserves.

5. All of these decisions weakened ECOPETROL by forbidding it to become an integrated oil company that participates in upstream and downstream activities. The logical thing to do would have been to strengthen the company, giving it an expedite contracting regime and facilitating funds for investment.

6. Behind these decisions, aside from the ideological considerations, one must bear in mind that the State has tried to extract a maximum of resources from the entity to finance the State budget and enhance the fiscal accounts before international agencies.

7. This has been a short–term vision, because having a strong company with investments in all fronts, investing heavily in exploration, and increasing reserves and businesses, would have resulted in high earnings in the future, with greater possibilities for profits and of oil revenues to benefit the State.

8. Another problem this State–owned company has faced is the contracting mechanisms and their limitations to act with more freedom of action, which has placed it at a disadvantage to compete and be more efficient.

9. The creation of the *Agencia Nacional de Hidrocarburos* and the New Oil Contract took away ECOPETROL's monopoly on exploration, obliging it to compete with the multinational oil companies. It is still too early in the experiment to draw conclusions. In this new environment is essential for ECOPETROL to be given more freedom of action to face such strong rivals that operate internationally. The proposal of a public sale of a stock issue equal to 20 % of the capital, would make it a mixed enterprise mixed with greater freedom to act, but since the government would maintain 80 %, it retains the

power to influence its actions, especially its investment plans and use of oil revenues. The important thing is for authorities to understand the need to facilitate the resources to grow and enter areas that have been denied it in order to become a true oil company. In principle, the resources from the 5000 million Dollars that form 20 % of ECOPETROL's capital will be utilized by the company to expand its investment program, which if done would be very positive.

10. As of 2004, the entire hydrocarbons chain is open to private agents. There is no reason, therefore, for the State–owned entities to be restricted from entering any of the activities in the sector. Equality should be for all actors, and the principle of competition should not be limited, because to do so, even with a State agent, in the end would be prejudicial to the citizens.

11. Colombia's experience indicates that the activities of State–owned enterprises should not be restricted in matters of administration, contracting, and resource use, once they have provided the National Government and regions with all contributions to which they should be obliged by law, if they are to be truly competitive oil companies.

12. Likewise, the separation of activities is not advisable for oil companies, because this weakens their competition with private multinational enterprises. We should not force on the hydrocarbons sector what was the norm for the power sector, driven by the World Bank and the Inter–American Development Bank, when in developed countries this philosophy does not apply.

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