Energy in South America

Facing a new challenge

Preface

This is the fifth edition of Energy in South America. Since the first edition up to now, South America has undergone significant changes. The privatization and deregulation processes in the 90s were followed by deep crises in several countries, which generated in some territories political and economic instability.

With the arrival of new governments with a tendency toward greater government involvement and the constant rise in the price of oil, the energy situation in the region has taken a new turn. Some countries are taking advantage of this situation to attract significant capital inflows to develop their energy industry, while others are attempting to enforce greater government involvement and tax pressure.

This has led investors to cease considering the region as a whole and to be very selective regarding the countries in which they choose to invest. Investment decisions are based on the political and economic circumstances in each target country.

Additionally, there has been a significant change in the investor profile in the region. During the 90s, the main investors were large multinationals. Current investments are led by Global Regional Energy Companies, local investors, junior energy companies and independent energy companies.

With energy prices at a historical high, South America continues to be an interesting region for investment. Some countries have strong domestic markets, others offer challenging investment incentives, and all of them are in a geographic location close to the largest consumer centers.

The purpose of this paper is to offer a general overview of the regional energy industry and its prospects. Section 1 presents an "Overview of the Energy Industry in South America", with a general outlook of current events and trends in the region and future prospects. Section 2 provides a general analysis of each country. Lastly, Section 3 provides economic and energy statistics.

PricewaterhouseCoopers has offices in every country in the region and is the leading service provider throughout Latin America with more than 10,000 professionals. Our firm has highly specialized professionals in energy matters and the related regional regulatory, legal and tax implications. We have three Energy Centers par Excellence in the region – in Caracas, Venezuela; Buenos Aires, Argentina; and Rio de Janeiro, Brazil. When you visit these or any of the countries in the region, we will be pleased to work with you and assist with your business needs and interests.

Ezequiel L. Mirazón, our Energy partner who resides in Argentina has led the effort that resulted in this publication. We are very appreciative of his contribution.

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Section 1
Overview of the Energy Industry in South America

Regional energy situation

The South American region holds 9% of world oil reserves, amounting to 111 billion barrels. Oil reserves in the region increased 19% over the last ten years, which is higher than the world level increase (16%). This percentage growth was driven mainly by Brazil, which increased its reserves by approximately 80% as a result of the self-supply program initiated by Petrobras several years ago. Venezuela, Perú and Ecuador have also increased their reserves. In the case of Argentina and Colombia there have been declines.

The region's reserve horizon is 46 years, which also exceeds the world average. Venezuela, Perú and Ecuador have reserve levels in excess of 20 years, while Argentina has 10 years and Colombia 7. These lower reserve horizons are troublesome. As the drop was significant, countries are forced to make heavy investments to avoid becoming importers in the short term.

The region's oil production (6.6 million barrels per day) is around 9% of world total. Against the world growth trend of 13%, South America's production increased 2% in the last ten years. The increases achieved by Brazil (111%) and Ecuador (30%) did not compensate for the declines in Argentina (20%), Venezuela (21%) and Colombia (16%).

The region consumes 5.5 million barrels per day, leaving 1.1 million barrels per day for export. This export balance is trending lower every year because consumption is increasing faster than production. The region's crude exports are 2.3 million barrels per day, almost 35% of total production, while products exports are 1.3 million barrels per day. The United States continued to be the destination for 72% of these exports, followed by Europe (13%), and China (8%). Crude imports are 0.9 million barrels per day (mainly from Africa) and products imports are 0.8 million barrels per day (mainly from the United States).

PDVSA and Petrobras, with a production of 3.5 million and 1.9 million of barrels per day respectively, are the two main companies in the region. PDVSA has its production operations mainly in Venezuela while Petrobras operates throughout the region.

Drilling activity in the region has been active in the last 5 years, accounting for approximately 8% of the rigs in activity around the world. During this 5-year period drilling increased 73% in the region, compared to 37% for the rest of the world. However, some countries in the region, including Argentina and Venezuela, showed declining activity.

The region's refining capacity has remained stable at around 6.5 million barrels per day, 7% of the world total. Refinery throughputs totaled 5.4 million barrels, or 7% of world production.

Gas reserves amount to 272 tcf, 4% of the world total, equivalent to 51 years of consumption. In the last ten years reserves increased 24% (compared to 21% globally). This increase was driven by Bolivia, Brazil and Venezuela, but was offset by reductions in Argentina and Colombia. The individual reserve horizon is high in some countries (Venezuela, Perú, Bolivia and Brazil), and very low in others (Argentina and Colombia).

Gas production in the region is 14 bcf/d, or 5% of world production. Argentina, Bolivia and Brazil have increased their production in the last 10 years, enabling the posting of an 82% increase in the last ten years, a figure higher than the world average (29%). Nevertheless, this situation may become more complicated in future, as follows.

The future for gas in the region is uncertain. The complex political situation in Bolivia, combined with the recent change in that country's hydrocarbons law, has halted the investment plans of several companies. In addition, gas and electricity prices are very low in line with prevailing regulations, in some countries (mainly Argentina and Bolivia) so there are no new investments in this industry and thus, they are not able

to meet their export commitments to other countries. As an example, Argentina had to cut supplies to Chile. Argentina has also begun importing gas from Bolivia (1,80 bcm). Faced by this situation, Chile (which imports 5,60 bcm from Argentina) and Brazil (which imports 9bcm from Bolivia) are looking at alternative solutions. Chile is studying the possibility of importing gas from the Camisea field in Perú, although it is also considering importing LNG. It is expected that Camisea in Perú will also become a leading player in this market. Camisea is building a plant to provide exports to Mexico and the United States.

Electricity and Natural Gas Prices for Households

(U.S. Dollars per Kilowatt hour and per 107 Kilocalories – Gross Calorific Value)

Country	Electricity	Natural Gas
	US$	
Argentina	0.038	75.22
Bolivia	0.072	233.17
Brazil	0.093	402.37
Chile	0.088	575.02
Colombia	0.084	232.34
Ecuador	0.128	N/A
Paraguay	0.058	N/A
Peru	0.113	313.83
Uruguay	0.113	N/A
Venezuela	0.046	48.08

Source: Energy Information Administration – w.w.w.eia.doe.gov. Information corresponding to year 2004

As far as other sources of energy, coal has not been developed significantly in the region, where it represents close to 2% of world production levels, concentrated in Brazil, Venezuela and Colombia. Nuclear energy represents less than 1% of the world total, concentrated in just two countries, Argentina and Brazil. Hydroelectricity is an important source in the region and accounts for 21% of world capacity, concentrated in Brazil, Colombia, Venezuela, Paraguay and Argentina.

South America continues to consume 5% of the world's energy. Its energy matrix differs from the world average. Although in both cases oil is the source of energy par excellence (35% at world level vs. 45% at South American level), coal is the world's second most significant source of energy (28% of energy consumed). In our region, hydroelectricity replaces coal as the second largest energy source (28%). Gas has a similar share of both matrices (24% at world level; 22% in South America), while the level of nuclear energy in the region (1%) is well below that of the rest of the world (6%). These differences will probably widen in the future, as Asian nations (the main current drivers of growth) use coal as their main source of energy, followed by oil.

Trends

Political circumstances

As stated in the PwC 11th Annual Global CEO Survey, a dramatic split is perceived in the confidence level of business leaders around the world.

In the developed world, these leaders are concerned that economic decline could result in recession and affect their ability to grow. Contrary to this, in the emerging economies, confidence remains strong.

In effect, South America has benefited of unprecedented growth since the 1960's at a rate of around 5% for almost 6 years in a row.

However, in this decade it is also evident that different countries have pursued different economic policies and criteria which have had implications in the energy arena.

On one side, the group of Brazil, Chile, Uruguay, Peru and Colombia have seen improvements in their output, which is translating into the energy field. On the other side, the group of Venezuela and basically, the rest of the countries in the region, have seen declines in energy activity. Thus, the excellent GDP growth performance in South America, has not necessarily

translated in all countries, in energy policies that have improved reserves and production.

The situation is reflected in the table below that shows how the world views the region in terms of investment potential.

The Global Competitiveness Index, prepared by the World Economic Forum, shows the global competitiveness of each country, with the most competitive countries rated as 1. According to this Index, only Chile is rated among the top 50 most competitive countries, out of 131 countries included in the ranking.

The World Bank prepares the Doing Business Ranking which classifies countries based on their business environment, with the countries that present the most favorable business environment rated as 1. This ranking includes 178 countries, and most South American countries appear after the 100th place.

JP Morgan Bank prepares the Emerging Market Bond Index (EMBI) which measures the total returns from external debt instruments traded in emerging markets. This index shows that countries like Argentina, Venezuela and Ecuador require a return of over 500 basis points over investments in U.S. Treasury Bills (measured in annual terms). A similar conclusion is reached from an analysis of the long-term domestic debt rating by S&P. Beyond these statistics, Brazil, Peru, Colombia, Uruguay and Chile are showing signs of organized macroeconomic mechanisms while the rest of the countries have yet to adopt that direction; these circunstances having impact in energy policies and activities.

In summary, investors are considering the political and economic instability in the region when analyzing investment opportunities in South America. This analysis involves two groups of countries: investment grade countries and higher risk countries (all the rest). An analysis of the trend in oil drilling activities shows that the countries with more stable economies (Brazil and Colombia) are the only ones in the region that have increased their relative share in this activity, as opposed to Argentina and Venezuela.

Regional energy integration?

The major success in terms of energy activities in South America in recent years has been Petrobras, the

Countries	Global Competitiveness Index	Doing Business rank	Emerging Market Bond Index	S & P Ranking and Expectation
Argentina	85	109	547	B+ / Negative
Bolivia	105	140	n/a	B- / Stable
Brazil	72	122	190	BBB+ / Stable
Chile	26	33	n/a	AA / Stable
Colombia	69	66	173	BBB+ / Stable
Ecuador	103	128	555	B- / Stable
Paraguay	121	103	n/a	B / Stable
Perú	86	58	157	n/a
Venezuela	98	172	584	BB- / Stable
Uruguay	75	98	261	n/a

Source: Global Competitiveness Index ranking: The Global Competitiveness Report 2007-2008-World Economic Forum Emerging Market Bond Index: Ambito Financiero June 9, 2008 | Doing Business: Doing Business 2008-2007 The World Bank Group | S&P Ranking and Expectation: Bloomberg June 5, 2008

oil company of Brazil. Petrobras has become one of the leading energy companies in the world and its success is discussed later in this section. The 1990s, had achieved a significant regional integration of energy, linking various countries in the region. The Bolivia-Brazil gas pipeline was built and exports of Argentinean gas to Uruguay began. Argentina began to export gas and crude to Chile. However, the Bolivian energy situation, after nationalization in 2006, left a high level of uncertainty as to how Bolivia could comply with its commitments for gas exportation. That said, in the last months, it has been unable to meet its commitments to Brazil. In addittion, the lack of gas in Argentina kept this country from fulfilling its export commitments to Chile, and also it began to import gas from Bolivia.

Facing this uncertain situation, countries involved in a group of projects are attempting to find a solution. Chile and Brazil have begun to analyze the importation of natural liquid gas and, thus not depend on importation from neighboring countries in the region. In early 2006, Venezuela announced the launching ofthe South American Gas pipeline which will connect Venezuela's reserves with the Brazilian, Argentine and Uruguayan markets. This project will give relief to other countries, like Chile, that could see indirect benefits. Nevertheless, the project which has a cost of $15 billion dollars and will cover more than 7,500 km is still under analysis due to its complexity and costs. On the other hand, certain countries continue betting on Bolivian gas and are in constant contact with the government of this country to reach a sustainable agreement for the long-term.

Nationalization and more regulation

During the last two years, Bolivia and Venezuela have begun the process of nationalizing their energy industries through a majority share in the state owned companies YPFB and PDVSA, respectively. Nationalization reached the oil and gas industry where state companies will hold a majority in operations. This turnabout has been further extended into other industries as well. Although similar situations in other countries are not expected, confrontation with governments could lead to specific situations of nationalization or a demand for oil fields to be returned to the State.

In the case of Argentina, government regulation has increased significantly since the crisis in 2002 when the prices for energy products were fixed well below regional levels (for electricity and gas). The oil and gas sectors have seen an increase in tax withholdings and exportation has become more restricted. These situations brought a drop in reserves and production of hydrocarbons coupled with a lack of both electric energy projects and refining.

For its part, the new state energy company ENARSA has taken an active role in the importation of energy to fill surges in demand, which are being supported economically by tax withholdings on energy exports.

The energy sector's future in Argentina, Bolivia, Venezuela and others will depend, in large measure, on the role that governments and state-owned companies companies take.

Petrobras, "A maior"

For several years, the strategy of Petrobras has been growth not only in Brazil, but beyond its borders. This strategy has permitted it to evolve into a regional energy company. What's more, Petrobras has strategically invested in research and technology for development of the offshore oil industry which is beginning to pay off for the state-controlled company.

Petrobas has been a driving force behind increased production in Brazil, which has gone from 1000 bbl to 2000 bbl per day in the last ten years, becoming the regional energy company par excellence, with operations not only in Brazil, but, also, in countries like Argentina, Bolivia, Chile, Ecuador, Colombia and Venezuela, where it holds an important market share in each of them. Investments in offshore technology have rendered results, demonstrated in the international recognition that the company has achieved, and above all, in recent discoveries in the fields of Tupi and Jupiter in the bay of Santos, with probable reserves of around 8 billion bbl. Its recently-announced investment plan over the next few years will be more than US$ 112 billion of which 87% will be in Brazil and the remainder, principally, within countries in the region. The financial market has also recognized the success of Petrobras.

Petrobras Peer´s Comparison- By Market Capitalization

Rank	Company	Market Capitalization	Sales US$ million	Employees US$ million
1	Exxon Mobil Corporation	459,998	404,552	80,800
2	Petrobras	291,308	104,252	68,931
3	Royal Dutch Shell plc	252,820	355,782	104,000
4	BP plc	217,662	291,438	97,600
5	Chevron Corporation	202,826	220,904	65,000
6	TOTAL S.A.	182,414	212,790	96,442
7	ConocoPhillips	142,660	194,495	32,600

Source: Reuters, Factiva (May, 2008)

After recently being included in the Dow Jones Index, the share has risen 70% over the last two years and market value of the Company will surpass US$200 billion, more than Shell, BP, Chevron or Total. In the attached table, Petrobras is compared with the other energy companies.

Petrobras will continue to be one of the principal players in the region given its positioning in several countries and its status as a leading company, which has been strengthened by its strategic and investment plan. Its position and strategy in the development of the gas market and other alternatives (the strategic role of Bolivia, the South American pipeline, importation of LNG) will be fundamental for this industry in the future.

M&A: America for the Americans

In the last two years, a number of M&A transactions have taken place in the regional energy market. The majority of buyers (85% representing 88% of the deals value) are North or South American companies: 26% of the deals (14% of total value) were made by Argentine-based companies; 11% by Brazilian companies (27% of total value); 11% by US companies (15% of total value); and 33% by other companies on the American continent (32% of total value). Of the remaining 15%

of the transactions, Spain and India stand out the most frequent buyers. From the sellers side, the United States is the country that leads in the quantity of transactions (30% representing 27% of sales).

In Argentina, the majority of transactions have been made in the electric market and between local groups. The transaction that stands out is the purchase of 14.9% of YPF by the local group Petersen Energy from Repsol. This transaction is of great importance for the market given that Petersen Energy will have an active role in company management and thereby in the Argentine petroleum market. Transactions in Brazil, as well, have chiefly been made in the electric market, along with operations in several countries related to sales of networks of service stations.

These transactions are expected to continue in the future, led principally by regional companies that understand the local culture and the complexity of these markets, given the increasing intervention and regulation in the region.

Summary

Prospects for the region will depend on various factors.

Because of its size and population, Brazil is always the center of attention in the region. With the highly popular president Da Silva and a more stable economy, Brazil is making strides in improving its energy production and improving its infrastructure. In addition, Petrobras' role in the region is very important as a leading regional company.

Venezuela has the largest amount of proven oil reserves in the Western Hemisphere. As a member of OPEC, Venezuela adheres to production quotas. The Chavez regime has created some controversial times for the energy sector, and for PDVSA´s activities that have caused declining production and more state intervention.

Bolivia is the country that probably provides the most uncertain outlook. Bolivia holds the second largest amount of natural gas reserves in South America. However recent government instability and the nationalization of the energy sector have caused private companies to halt their investments.

Argentina has seen an economic recovery, following its financial crisis in 2001-2002. In 2004, energy became the new predicament, due to state-imposed price caps on energy prices. The prices caps created a huge demand for energy that exceeded the country's supply. The Argentine government needs to resolve the situation of its gas and electricity tariffs, and allow market conditions to determine prices to prevent the country from running a serious energy shortage in the very near future. The gas reserves horizon is at the lowest levels seen in recent years. In the oil sector, a new state-owned energy company - ENARSA - was formed in 2004 as a means to offset the energy crisis. ENARSA was given control over all offshore concessions not already licensed to private companies in hopes of boosting exploration. Future investment in Argentina may be uncertain, given rising taxation and a climate of business difficulties.

Colombia is recovering from its economical and political struggles and has made significant progress in relation to domestic security and stability under President Uribe's regime. The changes implemented, dividing ECOPETROL and creating the National Hydrocarbons Agency (ANH) have been important steps that began to bear fruit in 2004 with the signing of various new contracts by ExxonMobil, Repsol YPF, Petrobras and others. These efforts must continue in order for the country to make new discoveries that will enable it to increase its reserves and production.

Peru has successfully completed the most important project in the country's history - Camisea. The project consists of several natural gas fields located in the Ucayali basin of southeastern Peru. It is estimated that Camisea will result in Peru becoming a net exporter of natural gas. Plans to export the excess gas, in the form of LNG, are now under consideration. Petroleum production, however, is declining. Maturing fields and a lack of new discoveries have resulted in a steady decline of oil production in Peru.

Ecuador has made considerable gains in the energy sector since 2003, with the start of its second major pipeline, the OCP. However, the political climate continues to be very unstable, and private energy companies have differed with the government over contracts and value-added taxes. Tenders for the rich central strip are continually being postponed or hindered by indigenous groups who are opposed to

exploration and production activities in the Amazon region.

Chile today appears as the most economically stable country in the region, but it is heavily dependent on foreign sources for energy. Lacking indigenous hydrocarbons, Chile's main local source of energy is hydroelectricity. Recent interruptions of gas imports from Argentina have caused the Chilean government to seek alternatives, including LNG or other sources of natural gas.

Conclusions

South America will continue to be a relevant player in the energy world. Its approximate aggregate share of 10% of world total can be sustained as certain countries are leading the industry in the direction of sound strategy and focussed investments, which provide improved accesibility and more sophisticated technology as well as enhanced training of human capital. The current "decoupling", where emerging economies are experiencing developments beyond declines in central regions may lead to potential challenges worth to consider by stakeholders of the energy industry in its various dimensions.

In the short term, political adverse issues and economic volatility in certain countries could be faced. In the longer term it appears that South America will improve its role in the world energy economy as the trends of globalization continue in the midst of more connectivity in the economy and cooperation between regions, countries and companies.

Section 2
The Energy Industry Country-by-Country

Argentina

The Argentine energy industry has undergone a number of significant changes since the commencement of deregulation in the 90s. Following the deregulation and privatization process, the rules of the game have changed, with the incursion of private companies in this business segment, increasing operations geometrically. However, this period ended with the crisis in 2001. Since then, the energy industry underwent significant changes, with government control of domestic prices, significant tax increases and a partial suspension of exports to focus on the domestic market supply.

Upstream

Private companies exploit oil and gas through concession contracts originally awarded by the National Government. At present, new concessions are awarded by provincial governments. In the case of offshore activities, ENARSA, the new state owned company, owns all the rights for the award of concessions.

In Argentina there is a strong industry focus on upstream activities. The ten leading companies drill and produce approximately 90% of the country´s oil and gas, as shown in the graph attached.

The industry has undergone sharp changes as a result of the local currency devaluation in 2002 and government measures. As from that year export withholding taxes were created with an initial 20% rate for oil and 5% for natural gas and gasoline. Subsequently, these withholdings became moveable, increasing in line with the price of crude oil. As a result of the increase in export withholdings and the impossibility of raising the price of gas for all users, domestic market prices are negotiated far below

Top 10 Oil Operators in Argentina

Operator	Oil		Gas		Drilled wells Year 2007	
	mbbls/d	%	Mm3/d	%	Quantity	%
YPF S.A.	233.52	36.10	37,819	27.92	510	35.3
Pan American Energy	107.52	16.62	18,087	12.64	170	11.8
Chevron San Jorge S.A.	53.16	8.22	2,576	1.82	65	4.5
Petrobras Energía S.A.	46.64	7.21	13,295	9.48	98	6.8
Occidental Exploraciones	38.62	5.97	1,593	1.33	151	10.4
Tecpetrol S.A.	31.24	4.83	4,519	3.28	74	5.1
Total Austral S.A.	22.55	3.46	33,598	24.98	43	3.0
PetroAndina Resources Ltd	21.06	3.26	53	0.04	98	6.8
Pluspetrol S.A.	15.81	2.44	11,399	8.15	56	3.9
Petrolera Entre Lomas S.A.	12.48	1.93	915	0.65	38	2.6

Source: Argentine Oil and Gas Institute - March 2008

international prices. This has had a negative impact on the industry over the last 5 years. Oil reserves and production dropped 30% and 13%, respectively. At current levels, the country has reserves to produce for another 7 years (10 years at the start of the crisis) and is likely to become an importer of crude if this scenario does not change. In the case of gas, reserves have dropped sharply by 45%, although there is a 24% increase in production. At current levels, the country has reserves to cover production for another 9 years (20 at the start of the crisis) and has already started to import gas from Bolivia and failed to comply with its export commitments with Chile. Although drilling activities have increased during the period, Argentina´s relative share has fallen progressively as compared with other countries in the region. As an example, at the end of 2007, drilling equipment was largely unavailable; subsequent to the release of the decree with the new level of tax withholdings, much of the drilling equipment now remains at a standstill.

Government withholdings on hydrocarbons have had a significant negative impact on the return obtained by companies. Argentine oil sales are subject to an export tax or export withholding factor which has the effect of limiting the realized sales price for the producer. Until November 2007, the export tax ranged from 25% to 45% depending on the price of the WTI. During November 2007, the Argentine government announced changes in the fiscal regime through which it would apply a withholding on any increase in crude oil prices above an international reference price of US$ 60.90 per barrel (or an indirect set a top at US$ 42 per barrel). As a result of this announcement the value of oil company shares with a significant exposure in Argentina fell significantly.

As regards ENARSA, the new state energy company created by the government has not had significant activity to date. It has executed several contracts with PDVSA for hydrocarbon exploitation in Venezuela and acts as non-operating partner in several exploration joint ventures. With regard to offshore oil exploration in Argentine waters, where ENARSA has exploration rights, the state company has entered into two joint ventures with other companies (YPF S.A. and ENAP) and will open a new call for bids in December 2008.

Since the amendment of the National Constitution, the Provinces own the right to exploit hydrocarbons. Provincial governments have been very active preparing calls for tender for a variety of exploration areas. Most of the successful bidders are companies with local capital.

In recent years there have been some mergers and acquisitions, as shown in Section 1. The most salient transaction in terms of value and significance was the purchase of 14.9% of YPF S.A. from Repsol by the local group Petersen. This transaction was carried out for US$ 2.235 million and has given the group Petersen Energía active involvement on the Board of Directors. In addition, Apache Group has also done two significant acquisition amounting to US$ 1.058 million.

There is a growing emergence of foreign independent companies in search of opportunities in marginal and secondary areas and exploration. Companies such as PetroAndina, Petrolifera Petroleum, Petrolera El Trébol, Petrolera LF or GeoPark have increased their activities in the country. Although the share of these companies in production is not yet significant (6% overall), they led almost 10% of drilling in the last year. These companies´ decisions to continue investing will depend on future regulations and the level of withholdings tax since, at is was mentioned, significantly impact the value of their sahres.

Taking all these factors into account, the Argentine upstream sector has a difficult road ahead. If current conditions do not improve, the Argentine market will remain unattractive to major oil companies, relying on local companies, Global Regional Energy Companies and the independent exploration and production companies to provide growth. The reserves horizon could continue to shrink, with self-supply at risk in the not too distant future. A change in the regulatory framework and less government intervention is certain to draw investors back to the country to continue developing this industry.

Downstream

Repsol, ExxonMobil, Shell and Petrobras are the most important companies in the downstream sector, representing 95% of all operations.

Company	Gasoline		Gas oil	
	M3	%	M3	%
YPF	237,711	51	620,524	56
SHELL	87,245	19	153,430	14
PETROBRAS	62,207	13	162,015	15
ESSO	58,281	12	128,811	12
OTHERS	23,931	5	50,019	4
TOTAL	469,375	100	1,114,799	100

Source: Argentine Oil and Gas Institute – March 2008

The situation of the downstream market is complex. Prices have been deregulated but are subject to government control, which generates a significant price lag and lower rate of return for the sector. As a reference, in April 2008 the price per liter of super gasoline in Argentina was less than half the price in neighboring countries such as Chile, Brazil or Uruguay.

Retail Fuel Prices in South America

(in US cent per litre)

Country	Diesel	Super Gasoline
	US cents/litre	
Argentina	48	62
Bolivia	47	54
Brazil	84	126
Chile	86	109
Colombia	57	98
Ecuador	39	47
Paraguay	77	97
Peru	86	122
Uruguay	94	123
Venezuela	2	3

Source: “International Fuel Prices 2007” – www.gtz.de/fuelprices. Information corresponding to year 2006.

Due to the economic growth in Argentina over the past 5 years, petrol and gasoline consumption has also grown significantly, turning the country from gasoline exporter to importer as from the year 2005. Gasoline exports have decreased progressively since 2005 leading to the assumption that, if new investments are not made, the country will also become an importer of this fuel.

Due to the circumstances described above, there have been no new investments in the sector and various players have expressed their decision to divest. By way of example, ExxonMobil put its assets in the country for sale, but eventually decided to continue in the business. Despite the fact that refining companies purchase crude oil at lower-than-market prices (US$ 42 approximately, when the international price of crude is US$ 130), business margins have dropped significantly, requiring a restructuring of end prices.

Future price fluctuations will be an indicator of the future trend in this business and its investment potential. If no new investments are made in refineries and no additional crude reserves are discovered to supply the latter, in addition to gas oil, the country will soon become a gasoline importer.

Gas and Electricity

Both gas and electricity have experienced similar effects from the economic crisis, and are analyzed together.

Carrying rates and distribution for generation, as well as well-head gas prices have been kept frozen causing the sector considerable losses. At this moment Argentina, has one of the lowest prices of has and electricity in the region.

The freezing of prices and tariffs caused a significant reduction in investment in gas and electricity. As a result, a major decline in gas reserves was recorded and shortages arose. Commitments to export to Chile were reneged on, and Argentina had to import gas from Bolivia. The government began developing energy

reforms to encourage investment in the sector. There was a high level of concern that the economic recovery seen during the last two years would increase demand for gas and electricity. An increase in consumption with the lack of investment could provoke energy shortages.

As a result of these developments, companies' reactions varied, but most of them decided to sell their assets or force bond holders to capitalize their debt. New players that are emerging are mainly local groups that are hoping for successful tariff renegotiations.

As for the critical situation of electricity in Argentina, the government launched the program "Energía Plus" (Energy Plus). This program allows companies which increase the generation of electricity through investing in new assets to be able to sell their product at prices much higher that those in the present market. The result is that prices are double or more than double the current prices, making the Energía Plus program quite attractive.. At least three local companies have expressed an interest in this program. A similar program was launched recently for the gas sector (Gas Plus).

This situation may require the National Government to modify some of the measures adopted or to issue additional regulations to curb the impact of the set of measures adopted to date on the net worth, financial and economic position of the sector.

Bolivia

Gas exports are the main source of revenues of Bolivia's economy. Since the discovery of gas reserves in the late 1990's, Bolivia has become a major exporter, supplying almost 30 million cubic feet per day, mainly to Brazil. It is estimated that Bolivia's proven reserves total 50 trillion cubic feet. The domestic market is small, allowing Bolivia to export its surplus.

Oil & Gas

Yacimientos Petrolíferos Fiscales Bolivianos (YPFB) is the state-owned oil company. YPFB's relationship with private companies is established through service contracts for hydrocarbon exploration and exploitation. Private companies assume all exploration risks. If there is exploitable crude or gas, YPFB will reimburse exploration, development and production investments, as well as costs and expenses, provided they meet certain criteria, and will additionally pay a service fee.

Under the current government of Evo Morales, the country has nationalized their hydrocarbons, requiring private companies to renegotiate their contracts. Investment in exploration has dropped dramatically during the last two years because of the political uncertainty and social unrest. The lack of investment generated a shortfall in the supply of gas and the government had to negotiate new terms and conditions with Brazil and Argentina for the supply originally agreed in the GSA (Gas Supply Agreement).

Bolivia's most productive gas fields are located in the Western and Southern parts of the country, Santa Cruz and Tarija respectively. These regions are currently seeking autonomy and therefore there is a lot of uncertainty regarding the future rules that will be in place and that might affect the oil & gas sector in these regions.

Downstream

Bolivia has two major refineries which were bought back from Petrobras in 2007 for approximately US$ 100 million. There are no plans to build new facilities.

Electricity

Until 1995 the generation and transmission of power was controlled and managed by a Government entity known as ENDE (Empresa Nacional de Electricidad). In 1995 ENDE was privatized and the sector was divided into: generation, transmission and distribution companies. Foreign investors are involved in the sector but investments are affected by political uncertainty and social unrest.

Generating companies are mainly hydroelectric and steam.

Brazil

Petrobras confirms the discovery of a giant oil field in the Santos Basin, which, as announced, will produce up to 8 billion/boe of light sweet crude oil. The Tupi field is currently Brazil's largest oil and gas reserve.

Brazil is the largest energy market in South America. The oil, natural gas and biofuel industries in Brazil are in full development. Natural reserves and production are increasing constantly. Brazil recently attained self-sufficiency in oil production (2006). Almost all the refining plants in the country are being improved and modernized and new refineries are under construction after almost two decades. The supply of oil-related products has increased significantly and, as a result, inspection in industry and the quality of products have also increased. Storage capacity is being expanded and new pipelines are under construction. With ethanol, fuel users now have an excellent alternative to the rising prices of oil and additionally contribute to lessen the negative environmental impact. Biodiesel is a new socially and environmentally safe option which became a reality in Brazil in a record three-year period. The increase in the number of companies that now operate in the exploitation and production of oil and natural gas in Brazil signals the growth in this sector.

At the end of 2007, Petrobras announced the discovery of one of the three largest oil reserves in the last twenty years, consolidating the development process and positioning Brazil among the countries with a high appeal for new investors.

At the beginning of 2008, Brazil attained investment grade in terms of security and competitiveness for foreign onshore investments compared with other countries.

Upstream

Exploration

At the end of 2006 there were: 247 concession blocks still in exploration phase, 67 fields in development phase and 265 in production phase.

As a result of the calls for tender organized by the National Petroleum Agency - ANP between 1999 and 2006, 44 concessionaires, including Petrobras, were involved in exploration activities in the Brazilian oil and gas market. In addition to Petrobras, 14 companies produce oil and natural gas in Brazil, 8 of these in partnership with Petrobras.

Of the 247 exploratory blocks in activity at the end of 2006, 73 were exclusively exploited by Petrobras, 100 were exploited without the involvement of Petrobras and the rest were exploited by other companies in partnership with Petrobras. The 67 fields in development phase at the end of 2006 still showed a significant involvement of Petrobras, which worked alone in 45 fields and with a partner in 14. The following operating companies had partnerships with Petrobras: Esso, Shell, Manati, Norse, Rio das Contas, Chevron, Frade Japão, Norsk, Kerr-McGee, Devon Energy, Sk Brasil, Unopaso, Recôncavo E&P, Queiroz Galvão, Petrosynergy and Coplex.

Reserves

Brazil´s total oil reserves reached 18.2 billion barrels at the end of 2006, reflecting an annual growth rate of 2.8% in the last 10 years. Proven reserves amounted to 12.2 billion barrels in 2006 – 3.5% higher than that recorded in 2005, representing 67% of the total reserves. In 2005 and 2006, Brazil was ranked 17th among the countries with proven oil reserves. Of the proven national reserves, 92.6% were located offshore (Rio de Janeiro stands out with 86.6% of the proven offshore reserves) and 7.4% were located onshore.

As regards natural gas, the proven reserves reached 347.9 billion m^3 in 2006, accounting for 59.1% of the total natural gas reserves in the Brazilian territory (588.6 billion m^3). Between 2005 and 2006, the volume of total natural gas reserves increased by 29.5%. In the period from 1997 to 2006, Brazilian proven natural gas reserves presented an average growth rate of 4.8% per year. As with oil, most Brazilian proven natural gas reserves were located offshore (78.6%). In 2006, Rio de Janeiro, the State with the largest share of these reserves, only had offshore reserves, concentrating 47.3% of the country's volume, followed by the State of Amazonas, whose land reserves account for 15.3% of the country's proven reserves.

Tupi Field

The Tupi Field, in the Santos Basin, whose reserves of 8 billion light crude oil barrels and natural gas were announced at the end of 2007, is the largest field discovered in Brazil and can increase Petrobras' oil and natural gas reserves by 40% to 60%. According to American estimates, the Company's oil and natural gas reserves amount to approximately 12 billion barrels. Petrobras operates the Tupi Field through a consortium in which it owns a 65% interest, in association with the British Company BG (24%), and the Portuguese Company Petrogal (Galp) (10%). Based on studies prepared by Petrobras, the Tupi Field, as with a significant part of potential Brazilian oil fields, is located in the pre-salt area – oil reserves below the salt layer, 7 km deep in ultra-deep waters – in the South and Southeast basins. These areas are promising and not well-known or exploited in Brazil.

With the confirmation of the gigantic Tupi Field, Brazil will become one of the main oil producers in the world, and an exporter of oil in the near future.

Júpiter

At the beginning of 2008, Petrobras and Galp Energia announced the existence of a condensed and natural gas reserve also located in the pre-salt area of the Santos Basin. The field, called Júpiter, is located at a final depth of 5,252 meters, 290 km off the cost of the State of Rio de Janeiro, and 37 km East of Tupi, at a depth of 2,187 meters.

According to information provided by the Petrobras administration, there is no estimate of the size of Júpiter's natural and condensed gas reserves in the Santos Basin, however the prospects are promising. With this discovery, Brazil should become self-sufficient in terms of natural gas as well. The estimated size of the Júpiter field will probably not be announced until the year 2009.

Production

In 2006, 8,287 wells were responsible for the national production of oil and natural gas, 3.6% more than those recorded in 2005. Onshore wells, representing 90.8% of the total, increased 3.4% in the period. Offshore wells (9.2% of the total) increased 5.4% between 2005 and 2006. In 2006, the daily national oil production (including crude and condensed oil, and excluding liquefied natural gas (LNG), schist oil, liquefied petroleum gas (LPG) and C5+) amounted to 1.7 million b/d (628.8 million barrels in the year), 5.5% increase in relation to 2005. Between 1997 and 2006 there was an average annual growth of 8.3% in oil production in the country. In 2006, Brazil maintained its position as the world´s 16th largest oil producer (including crude oil, condensed oil and LPG).

In the period from 1997 to 2006, national production of natural gas showed an average annual growth of 6.8%, reaching 17.7 billion m³ in 2006, which results from adding the volume of gas that is reinjected, burnt, lost and consumed during production, refining, processing and movement of natural gas, as well as the condensed volume in LPG form.

Petrobras enjoys international recognition, with its own technology for ultra-deep waters, and is producing oil at competitive prices in offshore fields at ever greater depths, attracting the interest of oil companies from all over the world, with which it is signing partnership agreements for the exploration and production of its reserves in Brazil's vast undersea platform. The opening of the oil and natural gas exploration and production market to international partners resulted in unique E&P opportunities in other parts of the world, mainly where Petrobras' know-how can contribute to the realization of business.

According to the Company's business plan for 2008, the investment estimated by Petrobras for the E&P business area will be close to US$ 65.1 billion, of which, US$ 13.8 billion will be destined solely to oil and gas exploration.

Downstream

Refining

In 2006, 13 national refineries had a combined refining capacity of 320.6 thousand m³/d. Of these refineries, 11 were owned by Petrobras and accounted for 98.5% of the total capacity, and two were owned by private companies.

In 2006, approximately 1.7 million b/d of oil (639 million barrels in the year) were processed by the national refinery park, 0.7% higher than the volume processed the previous year.

In 2006, Petrobras reached historical records for the refining and production of oil derivatives in Brazil. Its 11 refineries processed 1 million and 746 thousand bpd of oil (primary processing) and produced 1 million and 764 thousand bpd of oil derivatives – a growth of 1% and 2%, respectively relative to the previous year. The 80% share of national oil in the volume processed in 2006 reflects the operating reliability of the units, which worked on average at 89% of their refining capacity.

In keeping with the growth of national oil production, Petrobras has two projects in progress: the "Abreu Lima" refinery, in Pernambuco, for 200 thousand bpd, an undertaking of US$ 4 billion under study with

Petróleo da Venezuela (PDVSA); and the Premium refinery, in a yet-to-be-defined location, for 500 thousand bpd, to be the largest refining complex in the country.

In 2006 Petrobras marketed an average of 1,697 thousand bpd of oil derivatives on the Brazilian market – a 3% increase compared with 2005. The main products in terms of volumes sold were gasoline, petrochemical kerosene, fuel oil, diesel, LPG and jet fuel (kerosene).

According to Petroleum Intelligence Weekly, Petrobras was considered the 8th largest company in the downstream sector (refinery, transportation and marketing of fuel and oil derivatives) in the world.

Comperj – Petrochemical Complex of Rio de Janeiro State

Comperj – Petrochemical Complex of Rio de Janeiro State – will be built in partnership with the Grupo Ultra and the National Bank for Economic and Social Development (BNDES) in an area of 45 million m2 located in the municipality of Itaboraí, with expected investments of approximately US$ 8.38 billion.

Start-up of operations in Comperj is expected for 2012, and its main purpose is to increase the national production of petrochemical products, with a capacity to process up to 150 thousand bpd of national heavy oil for the production of petrochemical raw materials and oil derivatives. It will produce 1.3 million tons of ethylene, 880 thousand tons of propylene, 600 thousand tons of benzene and 700 thousand tons of paraxylol and other oil derivatives, mainly coke.

Natural Gas

Natural gas production amounted to 48.5 million m³/day in 2006 - equivalent to that in 2005. Imports amounted to 26.8 million m³/day, 8.8% higher than in 2005. The main consumer of natural gas continued to be the industrial sector, with 23.5 million m³/day and a growth of 4.7% in relation to the previous year. Consumption for electric power generation by public utilities dropped from 9.1 million m³/day to 8.0 million m³/day, and consumption by steam power plants grew 6.1%, reaching 10.2 million m³/day. Consumption at self-producing electric power stations increased 2.5%, reaching 3.4 million m³/day.

Proven natural gas reserves increased 13.5% relative to 2005, totaling 347.9 billion m3, equivalent to 19.7 years of production at the levels assessed in 2006. For the OECD countries, the reserves are equivalent to approximately 14 years of production, while the world average is 60 years.

With the aim of meeting the emerging demand, and to reinforce the national production, in 2006 Petrobras imported an average of 24.7 millions m3/day of the product – a 9% increase in volume compared with 2005. Also in 2006, Petrobras started the Plan for Anticipated Gas Production. According to this plan, the offer of national gas in the Southeast will be increased in two phases – the first, until 2008, will increase from the current 15.8 million m3/day to 40 million m3/day; the second, up to 2010, will take volumes to 55 million m3/day.

Petrobras is readying itself to enter the global market as an importer of Liquefied Natural Gas (LNG). The Company will install two floating regasification terminals in Ceará and Rio de Janeiro, with a capacity of 7 and 14 million m3/day, respectively.

Electricity

Brazil is one of the world's largest producers of hydroelectricity. Its dependence on hydroelectric power has proved risky, however, as a lack of rainfall may cause power outages. As a result, it is necessary

to diversify the sources of supply and Brazil, which has been a challenge. The country has the potential of using alternative sources, such as wind and biomass, however major investments are still focused in hydro plants and recently due to some indication of shortage of rain there was an increase in the demand of thermal plants that use oil and even coal, which has been a paradox considering the natural sources that the country currently has. Two years ago the government launched a program denominated PAC – Programa de Aceleração do Crescimento (Accelaration Growth Program), with the objective of enhancing the investments in infrastructure. As part of this program the country will again have major projects in energy including the one scheduled known as "Madeira." This project comprises the construction of a hydro plant in the Amazon forest and will require major investments from both public and private sectors. Government has the expectation that as result of this project and other ones included in the program the risk of an energy crisis such as the one experienced in 2001 will be lower. Currently the economic growth is better as compared two years ago and the indications are that the growth rate will remain at some considerable levels. The supply of energy will play a major role in this process, and as result, it seems that now the government is more focused about the adequacy of supply than the quality of the sources, which has been one of the factors contributing to the lower investments in alternative sources.

The National Electric Energy Agency (ANEEL) controls and regulates all power companies in Brazil. Electrobras is the state-owned company controlling most of Brazil's generation assets.

The sector´s development can be summarized as follows:

The Electricity Sector - Comparative Table	
Old Model	New Model
Financed by public funds	Financed not only by public funds but also private ones.
Vertically integrated companies	Companies unbundled into separate segments: generation, transmission, distribution or trading.
State owned companies in the majority	Open to private companies.
Monopolies. No competition	Competition in the generation and trading area.
Captive consumers	Free (eligible) and Captive consumers.
Regulated prices	Prices freely negotiated in the generation and trading area.

The Brazilian energy market is currently divided into the free market, which is open to selected classes of customers and traders/suppliers, and a pool of generators where the prices are determined in an auction system through standard contracts.

In order to keep an economic growth rate of 3.7% for the next ten years investments in the amount of approximately US$ 20 bn per annum would be required. Brazil has oil self-sufficiency but natural gas still accounts for a relatively small proportion of the national energy matrix. Some recent discoveries of reserves may contribute for a larger use of natural gas.

Major challenges for the sector include the following:

- Delay in the construction of the new plants due to the difficulty in obtaining the required environmental licenses;

- High level of taxes and regulatory charges included in the tariffs (actually represents more than 50% of the total price of the distribution companies);

- Price volatility in US dollars, considering that a significant portion of the generation is supplied by Itaipu. Itaipu is located on a dam which borders Brazil and Paraguay and is the largest hydroelectric complex in the world. Its price is established in US dollars;

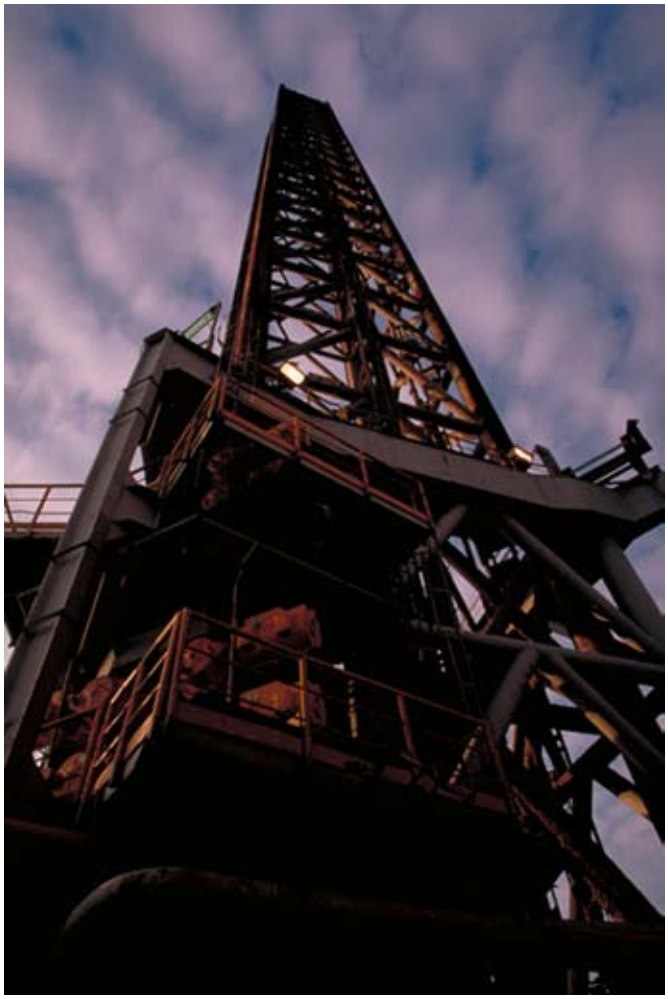
- Generation assets are concentrated in stated-owned companies. Large companies such as Furnas, Chesf, Eletronorte, Copel and Cemig remain stated-owned and there is no movement toward privatization at this point

In this complex situation, it remains a major challenge to attract private investors to the electric generation sector, which is critical since it appears that there will be limited public funds to apply to generation investments. During the past years some foreign companies (EDF and Alliant Energy for instance) sold their energy investments in Brazil and since then there have been no new significant entrants in the local market.

Biodiesel

The current electricity scenario is experiencing a difficult time. The exorbitant rise in the price of oil, which recently surpassed the US$ 140.00/barrel barrier, caused the main topic of this century to resurface: the substitution of fossil fuels for renewable and less polluting alternatives. In this context, ethanol has made a headstart. Produced from sugar cane, it emits approximately 25% less polluting agents than gasoline and, currently, is the most promising alternative fuel to replace oil.

Brazil has a great opportunity with this raw material. As proof of this, the country has been investing in ethanol production and technologies since the 1970s under a Pro-ethanol Program. The country currently produces - together with the United States - 70% of the world biodiesel supply, i.e. a total of 35 billion liters.



Driven by the rise in the marketing of flex fuel cars, which in 2007 accounted for over 85% of the sales of light vehicles, the country´s production is about to exceed 20 billion liters of ethanol in 2008, a volume almost 20% higher than the previous harvest. This will be achieved through an estimated harvest of 475 million tons of sugar cane in 2007-2008, representing a 10.52% increase over the previous harvest. This growth is expected to continue in subsequent years due to new investment projects recently announced in the sector.

These figures are even more impressive if we take into account the data of the National Car Manufacturers Association which estimates a production of 15 million flex fuel cars until the year 2013. Furthermore, other countries are showing increased interest in adding ethanol to gasoline. This growth in demand would drive Brazilian production to 750 million tons of sugar-cane for grinding in the 2017-2018 harvest.

To achieve this growth, the cultivated area would increase by 60%, covering 11 million hectares. Considering estimates for the next 10 years, domestic consumption will reach 28.4 billion liters and exports will amount to 10.3 billion liters of ethanol.

The Brazilian technology for sugar-cane production shows a high competitive level and is a leader in the sector. With high average productivity, ethanol production reaches approximately 6.7 thousand liters per hectare of sugar-cane planted in Brazil, a volume 25% higher than ethanol production in India, the second largest sugar-cane producer. Additionally, the ethanol produced by the United States, obtained from corn, has a productivity of only 3 thousand liters per hectare with a production cost almost twice that of Brazil.

Chile

During the first seven years of this century, Chile achieved a steady growth in GDP, ranging between 5.5% in 2000 and 5.2% in 2007. With sound economic policies, Chile has achieved the strongest sovereign bond rating in South America. The country has experienced stable growth and is committed to a democratic and representative form of government.

Chile's economy is highly dependent on international trade. In 2006, exports increased to $59.0 billion, from $40.5 billion in 2005, and imports increased to $36.7 billion, from $30.2 billion in the previous year. Exports accounted for about 42% of the GDP. Chile has traditionally relied on its copper exports; the state-owned firm CODELCO is the world's largest copper-producing company. Foreign private investment has developed many new mines, and the private sector now produces more copper than CODELCO. Copper output continued to increase in 2000.

Chile has increasingly assumed regional and international leadership roles befitting and augmenting its status as a secure, democratic nation. Chile has a GDP of approximately US $234.4 billion and per capita income is estimated at US $14,400. In terms of unemployment, which remains high at over 7%, Chile is ranked 83rd in the world. Chile deepened its longstanding commitment to trade liberalization with the signing of free trade agreements with the US, the European Union, South Korea, China, India and Mexico, among other 57 agreements, not all of these full trade agreements.

With the exception of hydropower, Chile possesses limited energy sources and must import to meet its energy needs. The National Energy Commission (CNE) supports a sustainable energy development program based on four principles:

- The main source of capital for the expansion of the energy sector must be private, and the regulatory environment in Chile must remain sufficiently stable to attract local and international private investment.
- Energy policies should promote clean energy at the lowest cost to reduce energy costs for the country's industrial sectors.
- Environmental sustainability is essential. All new energy projects in Chile require an environmental assessment.
- Maximize local employment opportunities in energy and provide access to basic energy services to the poorest parts of the country.

Upstream

The state-owned oil company Empresa Nacional del Petróleo (ENAP) produces about 21,000 bbl/d, of which approximately 2,700 are produced in Chile and the rest in Argentina, Ecuador and Egypt. Since domestic production is not sufficient to meet the country's needs, ENAP imports crude oil from Argentina, Brazil and Africa, among other countries. National oil consumption is estimated at 378,000 bbl/d.

ENAP continues to invest in exploration and research outside of the country through its international subsidiary ENAP Sipetrol. The international assets of ENAP are concentrated in four countries: Argentina, Ecuador, Egypt and Iran.

In Argentina, ENAP acts both as operator and/or partner in the exploitation and exploration of different concessions including Area Magallanes and Golfo San Jorge, among others.

In Ecuador, during 2007 ENAP managed to maintain an average of 17,500 bbl/d from the drilling of 5 oil wells through an investment commitment subscribed with Petroecuador, which led to an increase in reserves for exploitation of 17.2 million barrels.

ENAP has drilled its first well in Iran, in the Mehr block, in the Kuzhestan province, which was explored by Sipetrol's international joint venture with OMV (Austria) and Repsol YPF (Spain).

On June 30, 2007, the Iranian state-owned company NIOC, declared the Band E Karkeh deposit marketable. As from that date, the negotiation of the contract for the development of the deposit began, with estimated reserves of 217 million barrels. It is expected that the negotiation of this contract will conclude during 2008.

Gas

In recent years, repeated disruptions in the flow of natural gas from Argentina to Chile have strained relations between the two countries. In 2004, Argentina suffered an energy crisis, forcing it to cut natural gas exports to Chile. Since then, exports to Chile have fluctuated between 20-50 percent below contracted volumes, with natural gas flows ceasing completely on occasion. For example, Argentina completely cut exports to Chile for two weeks in August 2006. The import cuts have caused shutdowns at power plants and methanol facilities, and forced consumers to switch to costlier fuels. Along with the cuts in volumes, Argentina also increased natural gas prices: in July 2006, Argentina increased its natural gas export tax from 20 to 45 percent. Ongoing structural difficulties in Argentina's natural gas sector could lead to continuing problems with supply in the future.

Based on these events, Chile has begun to focus on LNG as a means of diversifying its natural gas supply and moving away from Argentina. In February 2006, ENAP awarded a $400 million tender to BG Group (UK) for the construction of an LNG regasification terminal near Quinteros, in central Chile. BG was due to commence construction at the end of 2006 and bring the plant onstream by the end of 2009. The facility will have an estimated output of 330 Mmcf/d. ENAP (GNL) has already signed supply contracts with large distributors.

There has also been talk of a potential second LNG import terminal. In August 2006, the Chilean government announced that Codelco would lead an effort to develop a terminal in the North of the country, which would supply power plants and major industrial consumers. The French company, Suez has also launched the idea of building a northern LNG terminal.

Downstream

ENAP leads the refining and distribution segments in Chile, with a market share of approximately 86%. ENAP is also making investments abroad to export its products to other Latin American countries. The first step was to acquire gas stations in Peru owned by Shell, jointly with the Romero group, a major economic group in Peru.

ENAP, through its subsidiary Enap Refinerías, has a production capacity of 220,000 barrels per day. During 2004, it introduced a new brand of diesel into the market, the Plus City Diesel (Diesel Plus Ciudad), with a view to improving the city's air quality. Between 2005 and 2007, ENAP together with Foster Wheeler Iberia, MAN Ferrostaal AG and Técnicas Reunidas, invested US $430 million to build a delayed Coker plant at the ENAP Refinery. The objective of this ENERGÍA CONCON, S.A. Project (Enercón) is to refine heavier crude oils to obtain lighter fuels, mainly diesel and gasoline.

Electricity

The Chilean electricity industry comprises approximately 31 generating plants, 5 transmission companies and 34 distribution companies. Together, these supply an aggregate national production distributed through four electricity systems (SING, SIC, Aysen and Magallanes). This sector was privatized in 1980 and is regulated by the National Energy Commission (CNE). In 2007 the Interconnected System of the Greater North (Sistema Interconectado del Norte Grande - SING) had an installed capacity of 3,601.9 MW, a maximum demand of 1,665.4 MW, a gross generating capacity of 13,945.8 GWh and sales of 12,674 GWh. The Central Interconnected System (Sistema Interconectado Central - SIC) had an installed capacity of 9,118.2 MW, a maximum demand of 6,313.4 MW, gross generation of 41,968 GWh and sales of 39,963.7 GWh.

System	Territory	Installed Capacity (%)
Interconnected System of the Greater North (Sistema Interconectado del Norte Grande -SING)	Between the towns of Arica and Antofagasta	30.17
Central Interconnected System (Sistema Interconectado Central - SIC)	Between the districts of Taltal and Chiloé	69.01
Aysen System	Region XI	0.28
Magallanes System	Region XII	0.54

In Chile 53% of the energy contributed by the SIC is based on hydroelectric generation. It is followed in lesser percentages by steam, diesel and coal generation. Electricity generation is led by Endesa (Hydroelectric and Steam Plants), with a gross installed capacity of 31.13%, and Colbún (Hydroelectric and Steam plants), with a capacity of 23.58%; together they contribute 55 % of the energy in the Central Interconnected System (SIC).

Share in energy generation for the SIC (%)		
	2007 (January to December)	2008 (January)
Hydroelectric Generation	53	46
Pumped-storage	37	19
Reservoirs	16	27
Steam Generation	47	54
Gas	6	1
Coal	15	16
Diesel	23	33
Others	3	3

The current energy scenario is complex due to the low level of gas coming from Argentina, the continued La Niña phenomenon and a reduction by 40% of reserves in reservoirs attributed to lower-than-expected

ice thaws. Major hydroelectric power plants such as Ralco (640 MW), Pangue (467 MW), Colbún (400 MW), Machicura (90 MW) and Pehuenche (500 MW) are operating at lower capacity and even generating as pumped-storage plants. As a result, the private sector and government authorities have taken measures to confront the crisis, focusing efforts on achieving the highest possible installed capacity before the onset of winter in order to overcome the problem of substituting Argentine gas with diesel and lower rainfall.

In January 2008, Endesa Chile made a contribution to energy in the country by bringing the commercial operation of the San Isidro II plant onboard two months early. Using a combined cycle, the San Isidro II plant's installed capacity increased by over 100 MW to achieve 353 MW. When the liquefied natural gas (LNG) is available on the local market following the completion of the Mejillones and Quintero plants (approximately by 2010), the steam plant is expected to achieve a generation of 377 MW. The start-up of the expansion of the San Isidro II plant will help to avoid electricity rationing in forthcoming months in a scenario that had become even more compromised following the failure at the Nehuenco I power station (which is expected to resume operations in the months to come), which caused a drop in supply by 370 MW.

The SING faces a short-term and medium term problem in view of the interruptions in the Argentine gas supply to GasAtacama (main generator of Northern Chile) and ElectroAndina and Edelnor, which operate on combined cycle. Mining companies face the risk of rationing energy supplies if GasAtacama becomes bankrupt, and are seeking to reach a financial aid agreement by paying for diesel and rapidly building coal-driven plants.

In the long-run, combined cycle steam-coal plants, with lower operating costs than diesel-powered steam plants, are expected to be put in place as from the year 2011. This will have a favorable impact, reducing energy prices through coal technology. Coal-driven power stations currently being built include Bocamina II (370 MW ENDESA), Central Coronel (Colbún S.A. 370 MW), Ventanas III (AES Gener 250 MW), Guacolda III (Guacolda S.A. subsidiary of AES Gener 150 MW).

The controversial Hidroaysen project, comprising 5 power stations to be installed in the South of Chile, and which has drawn strong opposition from environmental groups, would have a capacity of 2,750 MW. Construction is scheduled to commence in 2009 and the plant would become operative in 2014. This would contribute to meet the growing electricity demand in the long-run, but highlights the need to develop other alternate energy sources to ensure a stable energy supply for the country.

Energy mix

The Chilean energy mix, comprising the various primary and secondary sources of energy available in the country, has recently become the center of discussion due to the lack of diversification to face the impending energy crisis.

The complex energy scenario has forced the gas-driven steam power plants to resort to oil or coal, increasing production costs and environmental pollution. In the face of the continued restrictions afflicting domestic electricity generation, natural liquefied gas (LNG) arises as an interesting alternative. As a result, two LNG plants will be set up in Quintero and Mejillones and the first gas shipment is scheduled to arrive toward the end of 2009 or beginning of 2010. This will have a very positive impact as it will increase the country´s electric power supply.

With a view to diversifying the country´s energy mix, the Chilean National Congress passed a bill that promotes the use of renewable energies, and includes an obligation to supply energy using a minimum of 5% of unconventional renewable means between the years 2010 and 2014. As from the year 2014 this percentage will be increased progressively by an annual 0.5% to reach 10% by the year 2024.

Colombia

Colombia is now attracting very significant new investments from foreign energy companies and domestic groups, in large part due to the dramatic improvement in security and an improved tax and contractual environment.

President Alvaro Uribe, who was elected in 2002, has dramatically improved the security situation in the country, reduced taxes, and improved the terms of the new oil exploration and production contracts. The economy has been growing in the last couple of years at 6 to 7%, and inflation has been stable at about 5%. This very positive business environment has attracted a whole slew of new investments from international oil companies.

Opening up the country to new exploration and production is crucial to Colombia's ability to remain energy self-reliant. Unless production continues to increase and more new reserves are discovered, Colombia will probably become a net importer of oil in 2014. Major and independent oil companies including Chevron, BP, Petrobras, Hocol, Occidental, Total, and Mansarovar are currently the largest producers.

Colombia's crude oil generally is lighter and sweeter than that of other major Latin American oil producers, ranging between 28° and 36° API.

Upstream

Oil is the principal export commodity of Colombia, comprising 26% of export revenues and 16% of government revenues in 2007. In early 2008 Colombia reported an estimated 1.5 billion barrels of proved oil reserves. Colombia's oil production has remained fairly stable in the last four years, at between 525,000 and 560,000 barrels per day (bbl/d), after reaching an all-time high of 830,000 bbl/d in 1999. Much of the decline is due to the depletion of Cusiana, Cupiagua, and Caño Limon fields (the three largest).

To increase the country's attractiveness to investors, the National Government has introduced many changes to its energy policies in recent years. In July 2003, Ecopetrol (the national oil company) was reorganized into two separate entities as a cost-cutting and transparency-increasing measure. Concessions, royalties, seismic and geologic data, oil demand projections and promotion of foreign investment since 2004 are controlled by the National Hydrocarbon Agency ("ANH"), reporting to the Ministry of Energy and Mines (MEM). Exploration, production, transportation, refining, and marketing remain under Ecopetrol's

control, while also reporting to MEM. ANH spent US$130 million in 2005 and 2006 to purchase new seismic and geologic information.

ANH developed a new form of E&P contract to award blocks to oil and gas companies, replacing Ecopetrol´s 30 year old Association Contract Model. The new contract incorporates several changes that significantly benefit the contractor, such as extended exploration, evaluation and production periods, work programs and plans defined by the contractor, the possibility of not sharing production with Ecopetrol or ANH after taxes and royalties, among others.

Ecopetrol itself has restructured itself significantly, to become more efficient and competitive. In late 2007 it performed an initial public offering ("IPO") of it's shares in the Colombian Stock Exchange, which was a huge success, bringing the equivalent of US$2.8 billion of new capital into the company, so that more than 400,000 new shareholders now hold 10.1% of the company. And Ecopetrol has announced plans to list it's shares in the United States market during 2008.

In 2003, Chevron and Ecopetrol signed an extension of the Association Contract for the Guajira gas area "A" (the largest in the country), which is now effective through the end of the economic life of the gas fields under production. This permitted the drilling of three new offshore wells, an increase in production, and the export of gas to Venezuela (Maracaibo) beginning in 2007.

In 2004, Ecopetrol extended Occidental's contract for the large Caño Limon field , until the field is no longer commercially viable. Under terms of the contract, Ecopetrol's share of production will increase to 55% by 2008, with Occidental investing US$263 million over a period of six years

In 2004, Ecopetrol, Petrobras and ExxonMobil signed a contract to explore the 11 million acre Tayrona Block in the offshore Caribbean. Petrobras, known for its expertise in deep-sea drilling, has an established presence in Colombia's oil and gas sector, with stakes in many blocks. More significant is the return of ExxonMobil as an upstream operator in Colombia after nine years of inactivity.

Several auctions of blocks have been held by ANH in the last two years, and 34 new E&P contracts were signed in 2007. And the government has also been promoting new investments in heavy oil fields and marginal fields. 90 new wells are projected to be drilled during 2008, which is a very important increase from recent years.

Downstream

Colombia's current refining capacity is about 285,000 bbl/d. Although Colombia is a net oil exporter, gasoline and diesel fuel are imported to meet domestic product demand.

In 2006 Ecopetrol signed a contract with Glencore to establish a new company to perform a major expansion costing approximately US$1 billion of its Cartagena refinery, which will double refinery capacity to 140,000 bbl/day. Glencore owns 51% of the new company and Ecopetrol the remaining 49%. The expanded refinery is expected to be ready by 2011.

The principal distributors of refined products in Colombia are ExxonMobil, Terpel (a domestic company), Chevron, and Petrobras. Consumption of gasoline has been decreasing in recent years. And 10% of the gasoline is now required to be ethanol.

Gas

Colombia's proved natural gas reserves stood at an estimated 7.0 trillion cubic feet (Tcf) at the end of 2007.. Production in 2007 totaled 266 billion cubic feet (Bcf), which was an increase of 18 Bcf over 2006. Consumption is expected to grow significantly over the next decade. The government's Natural Gas Mass

Consumption Plan is focused on increasing natural gas use, especially for electricity generation and public transportation.

Colombia's natural gas industry is controlled by three key players: Ecopetrol, which manages exploration and development of natural gas reserves; the Energy and Gas Regulatory Commission ("CREG"), which oversees regulation of distribution markets; and Transportadora de Gas del Interior S.A. ESP ("TGI") (formerly "Ecogás"), which is now owned by the Empresa de Energía de Bogotá S.A. ESP ("EEB") and is in charge of managing the country's transmission system and operating most gas transportation pipelines. There are approximately 20 upstream and downstream private operators in Colombia's gas sector, with Chevron having the largest upstream presence and Gas Natural S.A. ESP (controlled by Gas Natural of Spain) being the largest distributor of natural gas in the country.. CREG has segmented the industry into production, transmission, distribution, and marketing sectors. ANH's new contract model, which reduces the state share of production in hydrocarbon developments, also aims to attract greater foreign investment in natural gas.

Colombia's natural gas reserves are located in 18 basins, seven of which are under development or currently used for commercial production (including the Magdalena Valley, Catatumbo, Putumayo, Llanos Orientales and La Guajira). Seven basins are located offshore. Natural gas production is centered along the Northern Coast (Guajira) and in the Cusiana and Barranca regions. The Guajira basin is thought to have the most potential for large new discoveries. Within that basin, three fields -Chuchupa, Ballena and Riohacha- are already under production. Despite government efforts to accelerate the Colombian natural gas sector, development has been slow.

Over 80% of Colombia's natural gas is produced at the Chuchupa offshore field and the Ballena onshore field by Chevron's Colombian subsidiary, which has an association contract with Ecopetrol through the end of the commercial life of the field. Beginning in 2007 the association is exporting gas to Venezuela as well.

Electricity

Colombia, like many other South American countries, relies heavily on hydropower as its primary source of electricity. There are currently over 90 power plants in the country, with the largest being the San Carlos (1,240 MW), Guavio (1,000 MW) and Chivor (1,000 MW) hydroelectric plants. Compared to other Latin American nations, Colombia's electricity generation per capita is low, although excess production capacity now exists. The consumption of electricity grew 4.0% in 2007, which was similar to 2006. And the revenues of the electrical sector were up 8%, with a 30% increase in operating profits.

Approximately 85% of Colombians have access to electricity. An estimated 63% of generation in 2007 was hydroelectric, down from nearly 70% a few years ago. Colombia's hydropower sector has weathered difficult times since the early 1990s, including a severe drought in 1992. As a result of the drought, hydroelectric plants were unable to meet electricity demand that year. Power was rationed and periodic blackouts increased. As a result, the government has encouraged new capacity to be brought online through the construction of coal and natural gas-fired power plants over the medium to long term. Hydropower's share of electric generation is therefore expected to decline in coming years compared to coal and natural gas-fired generation, although there are some new hydroelectric projects in progress (including the Pescadero-Ituando plant, scheduled for 2008 and the Porce III plant in 2009). Electricity is transmitted through a national grid.

The Colombian electricity sector is managed by both private and public companies, including generating companies, traders, transmission firms, and distribution

operators. A 1994 electricity reform law deregulated the sector, offering consumers a choice between privately and publicly-owned power suppliers. The reform law also established CREG and the Wholesale Electricity Market, which began operations in 1995. Privatization of the sector progressed throughout the late 1990s and additional privatizations of publicly owned regional distribution firms are underway. Of the 36 generation companies on the national grid, several large companies remain publicly owned, including ISAGEN and EEPM. EMGESA, the largest (with 22% of Colombia's electric generation capacity) is already privately controlled.

Interconexión Eléctrica S.A. ("ISA"), which is 53% owned by the federal government, controls 80% of the transmission system in Colombia, 80% in Peru, 13% in Brazil, 37% in Bolivia, and 14% of the interconnection project in Central America.

During 2007 Empresa de Energía de Bogotá S.A. ESP ("EEB") acquired the assets and business of Transportadora de Gas del Interior S.A. ESP ("TGI"), which was previously called Ecogás, for CP$759 billion. That deal was financed basically by the issuance of bonds internationally for US$750 million by TGI and for US$610 million by EEB, which were the two largest issuances in the corporate history of Colombia.

In compliance with the Government objectives to strengthen Colombia as an exporter of electricity to other Latin American countries, during 2006 EEB won the contract to design, build, operate and maintain the Colombia-Ecuador energy transmission line, consisting of a twin circuit of 230 kilovolts. In 2007 the construction of the line was completed by EEB, with an investment of CP$98 billion. In addition to reinforcing the energy exchange capability between Colombia and Ecuador, this project represents large benefits for the country, and particularly for the southern region of Colombia. The country also exports energy to Venezuela and soon to Panama.

Coal

Colombia is the largest coal producer in Latin America with proved reserves of 7,063 million tons (2007). Most of the coal is high-quality bituminous coal and a small amount of metallurgical coal. Over the past decade, production has more than tripled, to an estimated 69 million tons in 2007, and it is expected to grow to 100 million tons by 2011.

Colombia's coal reserves are the second largest in the continent, after Brazil. The majority of reserves are found in the Guajira and Cesar departments in the north, near the Caribbean coast. Colombia's coal is relatively clean-burning, with a sulfur content of less than 1% and low ash and humidity. The Colombian government has recently increased investment in and promotion of coal exportation. A second rail line linking the Cesar region with Santa Marta port on the Atlantic coast is being built. Colombia is already one of the largest coal exporters in the world, with about 90% of domestic coal production going to export. Coal is now Colombia's second largest export product.

Colombia's coal mines are fully privatized and operated by foreign companies. The state mining company, Minercol, was shut down in 2004. And the government sold off the coal company Carbones de Colombia (Carbocol) to the Carbones del Cerrejon consortium. The consortium includes South Africa's Anglo-American, the UK/Australian BHP Billiton, and Switzerland's Glencore. Carbones del Cerrejon owns and operates the massive Cerrejón Zona Norte Project (CZN), which is the largest coal mining operation in Latin America and the largest open-cast coal mine in the world. The consortium is investing heavily over several years to increase production.

The U.S. based company Drummond is very active in Colombia, owning and operating the country's second largest mine, La Loma, in the department of Cesar The company also owns El Descanso, another coal property located in the same area, and is also investing very intensively in order to dramatically increase their coal exports.

Ecuador

Crude oil exports are the main source of revenues of the Ecuadorian economy. Since the discovery of crude oil and its exploitation in the early 70's, Ecuador has become a major exporter, supplying almost 196 million bbl to other markets in 2006. All in all, Ecuador's proven reserves reached 4.5 billion bbl in 2007. In December 2007, Ecuador rejoined the OPEC oil cartel, which it previously left in 1992. Its output quota was set at 520,000 barrels per day (b/d).

Upstream

PETROECUADOR is the state-owned oil company. Efforts for a total or partial privatization of the company have repeatedly met resistance from labor unions and opposing political leaders. PETROECUADOR's relationship with private companies is established through service and partnership contracts for hydrocarbon exploration and exploitation. Private companies must observe the following rules:

Service contracts

Private companies shall assume all exploration risks. In the case of discovery of exploitable crude, PETROECUADOR will reimburse exploration, development and production investments, as well as costs and expenses, provided they meet certain criteria, and it will additionally pay a service fee. This type of contract is no longer used for new ventures. As explained below this type of contract could be considered as the applicable contractual mechanism to be applied in the future to partnership contracts currently under renegotiation with the Hydrocarbons authorities.

Partnership contracts

Private companies shall assume all exploration risks.

In the event of crude oil discovery, the private company shall surrender to PETROECUADOR a percentage of production.

Until 2007, the majority of the private companies used to work under partnership contracts. In 2006 the related fields produced approximately 99 million bbl. Contracts for five marginal fields in the East of Ecuador were signed in 1999, with production levels under 7,400 bbl/d. These contracts established minimum investment levels to develop these fields, activate the wells and improve their productivity.

However, the new Government has decided to turn all partnership contracts into service contracts over a two-year period. Although the service contract model has yet to be defined, it will likely be similar to the policies stated previously, favoring the state-owned enterprise. Currently, except for a foreign company which opted for the early termination of its partnership contract, all the investors have signed a memorandum of understanding with the Government to change to a service contract model.

Ecuador's most productive oil fields are located in the northeast of the country (the Amazon Region). Most of the oil produced in Ecuador is either medium weight/medium sour crude (Oriente) to heavy sour crude (Napo). In 2005, the Ecuadorian government announced that it would auction blocks in the ITT (Ishpingo-Tambococha-Tiputini) field. These fields contain proven reserves of heavy crude oil. The area located in the eastern province of Napo contains approximately 720 MB reserves with an approximate API gravity of 16°. This project is estimated to involve a US $2 billion investment, which includes the construction of crude oil production, storage and transportation facilities for the control and delivery center that will be located in the port of Balao, in Esmeraldas.

Currently, the Ecuadorian Government is lobbying against international organizations and European countries in search of compensation for not exploiting the ITT due to the environmental hazards that could come from oil investments in this area. Compensation could be in the form of a reduction of foreign debt held with other countries.

Other bidding rounds that would involve fields in the southwestern area of the Amazon region and offshore fields in the southwestern part of the country are still pending.

There are other contractual regimes defined as Specific Services Contracts in which PETROECUADOR grants private companies the right to operate its fields in order to increase and optimize oil production in exchange for a fee. The contractor may execute additional exploration activities in the assigned fields at its own cost.

Downstream

Currently, Ecuador has four refineries (Esmeraldas, Libertad, Lago Agrio and Amazonas) and is planning to construct an additional plant to meet the domestic demand for refined products. The planned capacity for this new refinery is 200,000 bbl/d. According to the most recent information available during the first semester of 2007, the production of these refineries was approximately 26.2 million bbl of crude oil (the same level as in 2006).

PETROECUADOR and a private consortium - Oleoductos de Crudos Pesados (OCP) are in charge of transporting Ecuadorian crude oil. Currently, OCP Limited is an entity comprised of private local oil field operators (Andes Petroleum- CNPC, REPSOL- YPF, AGIP OIL - ENI, PERENCO and PETROBRAS). The private companies signed a build-own-transfer (BOT) contract in February 2001 with PETROECUADOR. The pipeline constructed by OCP to carry heavy crude oil was completed in the end of 2003. This pipeline has 480 kilometers of tubing with a transportation capacity of 450,000 bbl/d of crude oil with API gravity of 17°.

Gas

Ecuador has an estimated 3.2 trillion cubic feet (Tcf) of natural gas reserves (2007 data); however, it currently lacks the necessary infrastructure to develop these resources. The single natural gas processing plant is located in the Gulf of Guayaquil, in the Amistad field, and is owned by Noble Energy. Noble signed a 15-year contract with PETROECUADOR to develop the estimated 177 billion cubic feet (Bcf) of recoverable gas reserves in the Amistad field. This gas supplies a 240-megawatt (MW) steam electricity plant.

There are no distribution networks in Ecuador, so tanks and bottles are used. There are three gas production plants in the country; however, their production is insufficient to cover domestic consumption and the shortfall is covered by imports.

Electricity

Until 1999 the generation and transmission of electric power was controlled and managed by a Government entity named INECEL (Ecuadorian Institute of Electrification). In April 1999, INECEL entered a dissolution process and transferred its generation and transmission facilities to six generation companies (HidroPaute, HidroAgoyan, HidroPucara, TermoGuayas, TermoPichincha, and TermoEsmeraldas), one transmission company (Transelectric) and 17 distribution companies. No progress has been made to date through the modernization process undertaken by the Government in prior years that would have allowed private investors the right to acquire up to a 51% interest from the Solidarity Fund (sole government-owned shareholder) in any of the 24 companies in the sector. In practice, this process has been entirely abandoned by the Government.

The Government is currently constructing and planning the construction of nine new hydroelectric plants. It is expected that, once they become operative in 2012, these plants will generate 2,950 megawatts. The most significant facilities are Mazar, Coca Codo Sinclair and Soplador. Mazar, currently under construction at a cost of approximately US$400 million, will become the largest dam in the country. Mazar's most important function will be to guarantee a permanent water supply to Paute (the largest hydroelectric plant in Ecuador), besides generating 160 megawatts of energy.

The Coca Codo Sinclair project, which is in its initial stage of construction, at a cost of US$1.6 billion, is expected to generate 1,500 megawatts of energy. Ecuador will finance 70% of the cost and Argentina the remaining 30%. It is expected that this plant will start operating in 2012.

The Soplador project is the third most important hydroelectric plant under construction at a cost of US$500 million and is destined to increase the generation capacity by between 312 and 500 megawatts. It is estimated that this project will allow Ecuador to save approximately US$200 million per year currently spent to import electricity from Colombia.

Other significant projects include: Feiseh (1,710 megawatts), Toachi-Pilaton (228 megawatts), Buenos Aires (980 megawatts of energy) and Minas, Jubones, La Unión (285 megawatts).

Paraguay

Paraguay has no known oil reserves, and until 2005, had not discovered natural gas reserves. In 2005 a private company discovered natural gas reserves, but there is no information about the size of the reserves yet, or if it is going to be profitable.

Various prospecting concessions have been granted to foreign and domestic companies; however, none of them have yet discovered any commercially viable fields. Domestic consumption of oil derivative products was estimated to be 21,500 bbl/d in 2004. There is

a small refinery (7,500 bbl/d) operated by Petróleos Paraguayos (Petropar), the state-owned company. The remainder of the domestic consumption is dependent on imports from Brazil and Argentina.

The Paraguayan market records average annual consumption of approximately 1,300 million liters of gas oil and the various varieties of gasoline, with gas oil accounting for 77.5%. Petropar is responsible for most of the oil imported and processed, while distribution and retail sales are carried out by private companies, both domestic and foreign. Since the middle of the last decade, restrictions have been lifted on the import of lead-free fuel and certain derivatives.

The main source of energy comes from hydroelectric power plants. Paraguay has an installed hydroelectric generating capacity of 7,380 MWs, and its annual generating capacity is 46,800 GWh. Paraguay owns 100% of a hydroelectric power station at Acaray, generating 180 MW and on average 800 GWh per year. This power station is in the process of being upgraded to provide 225 MW and 1,000 GWh per year.

The world's largest operating hydroelectric dam is the Itaipú dam, which began operating in 1984. Paraguay is a partner with Brazil in the Itaipú project, with a capacity of 12,600 MW and 90,000 GWh per year. It also partners with Argentina at Yacyreta, a project still under construction, with a current capacity of 1,800 MW and 12,000 GWh per year. Paraguay's total installed capacity will increase to 8,725 MW and generating capacity will reach 51,000 GWh per year once Yacyreta has been completed. Two additional turbines have been added at Itaipú, and Acaray has completed its upgrade.

Upstream

Deregulation of the energy market in Paraguay is in its initial stage and there is a current debate about whether or not to privatize Petropar, the state oil company. A recently proposed bill in the Congress would make it possible for the private sector to import gas and oil directly and would create a market regulator entity. The Executive Branch has not yet pursued the privatization process, but is under pressure to do so by the IMF. In a stand-by arrangement with the IMF, one of the structural conditions is to make a plan to open the state company's capital to the private sector. The Paraguayan Congress apparently is gaining interest in reforms.

Demand for oil totals approximately 21,500 bbl/d and consumption is growing steadily. Currently 80% of demand is being met through the import of refined fuels, so the government is studying the possibility of offering a private sector concession for the refining of fuels within Paraguay.

Paraguay is located on an extensive region of sedimentary basins, with a favorable hydrocarbon potential, but it is not yet productive since it is hindered by the limited amount of technical information available. This is a result not only of the region's geological complexity but also due to the lack of required funds to invest in this field.

Gas

The gas industry was non-existent in Paraguay until 2005. A company called CDS Oil & Gas recently completed a natural gas production test in the Paraguayan region known as Chaco. The results found that Paraguay has the potential to become a hydrocarbon producer. There are current plans to grant concessions for the building of two combined cycle thermal power stations, linked to the construction of a gas pipeline from Bolivia, so that industry can make use of this energy source.

In 2004, Paraguay's government agreed to sign twelve hydrocarbon exploration and production concessions in northwestern Paraguay. CDS Oil & Gas has been

involved in production testing in the northwestern part of Paraguay, and recently completed a production test on the Independencia-1 natural gas well. According to CDS, the well produced 960,000 cubic feet per day. Many now believe that Paraguay might have the potential to become a natural gas producer.

Electricity

At present, state company Administración Nacional de Electricidad (ANDE) controls Paraguay's electricity market. ANDE also holds preferential rights for the use of the required hydraulic resources. Although CLYFSA operates as a distribution company in Villarrica, its market share is insignificant. The exclusivity of the state-owned company can be delegated to the private sector in those areas not yet connected to the national grid.

The liberalization of the electric power sector is at an initial stage. The Government intends to separate the generating, transmission and distribution operations, and is studying changes to the regulatory framework. Paraguay has the lowest electricity rates in the Mercosur, US $50/MWh, on average. The industrial rate is around US $30/MWh. Paraguay has excess electric power capacity, so the prospect for maintaining the lowest average electricity tariff in the Mercosur is favorable through the long-term.

Nearly all of Paraguay's electricity comes from the Itaipú hydroelectric dam. The remainder of the country's supply is generated by the Yacyreta and Acaray hydropower plants, and several thermal-fired plants. Much of the excess supply from Itaipú is exported to Brazil.

Peru

Peru has traditionally been focused on oil, but is now developing a natural gas producer due to the Camisea project. As of 2005, oil represented 55 percent of Peru's total energy consumption followed by hydroelectricity. Peru has also developed an integrated liquefied natural gas (LNG) terminal that will allow the country to become a regional exporter of natural gas in the near future.

Upstream

Gas production and demand in Peru is currently in a stage of development which has been growing continually since the year 2000.

Natural gas (NG) and liquefied petroleum gas (LPG) production grew significantly as from 2004 mainly due to the start-up of the exploitation of the Camisea (Block 88) field. Production is carried out by Pluspetrol, with a 36% share, Hunt Oil (36%), SK Corp. (18%) and TecPetrol (10%).

In 2007 natural gas production increased 49.8% compared with 2006 mainly due to the 88.9% growth in gas drilling in Block 88. Pluspetrol strengthened its position as the main producer, with over 70% of the national production. It is followed by Aguaytía, Petrotech and Petrobras, with 15.1%, 5.5% and 3.9% respectively.

LPG production did not grow at the same pace as NG (growing a mere 0.8%) since the progress made by the Talara refinery (19.2% of national LPG production in 2007) and by Procesadora de Gas Pariñas was affected by a drop in production at La Pampilla (6.6%), Aguaytía (3.9%) and Pluspetrol (64.1%).

The significant domestic demand for LPG from the industrial and vehicle sector led Pluspetrol to give priority to domestic market supply, which resulted in a sharp drop in LPG exports (-93.5%) and a 2600% increase in imports in November 2007 compared with the same period of the previous year.

Production of liquid hydrocarbons grew slightly (0.48%) as a result of exploitation activities by Petrotech (4.29%), Petrobras Energía (2.88%), Río Bravo (25.74%) and Plus Petrol Norte (0.07%).

Current and future investments

Based on macroeconomic indicators, Peru shows signs of stability that will attract greater investments in the hydrocarbon sector in exploration, exploitation and distribution activities. As evidence of this, Pluspetrol has been investing US$ 850 million in works at the Pisco and Las Malvinas fractionating plants.

Perú LNG will disburse close to US$ 3,500 million in its project for exporting liquefied natural gas export to Mexico envisaged for the year 2010. Cálidda is scheduled to invest US$ 28 million on the extension of its distribution networks to residential and industrial clients and compressed natural gas filling stations for vehicles. Additionally, an estimated US$ 1.3 billion will be invested in the modernization of the Talara and La Pampilla refineries over the next 5 years.

Companies that have never operated in Peru have been awarded the tender launched by Perupetro to explore and eventually exploit oil and gas in the country. These include Samaraneftegaz S.A.A., Pan Andean Resources Plc – which obtained two blocks, Talismán Energy Inc. and Ecopetrol which were the successful bidders for Block 134, Pacific Stratus Energy Ltd., which obtained blocks 135, 137 and 138, and Vetra Energy Group Llc. which won the bid for Block XXV.

During the current year, new contracts were executed with Barret, Hocol Perú, Gran Tierra Energy and Burlington for the exploration and exploitation of hydrocarbons in blocks 125, 116, 128 and 129 respectively. With these new projects, the country will be able to meet the domestic market demand and destine a percentage for export.

The laws governing the sector were not modified in 2007. However, work is being carried out to launch promotion programs for the exploration of blocks to attract investors, with a view at competing with countries with hydrocarbon potential that continually improve their tax and contractual conditions.

In December 2007, an increase from 10.86 TCF (tetra cubic feet) to 13.4 TCF was achieved by Pluspetrol in the natural gas reserves in Camisea, in blocks 88

and 56 (Pagoreni). That same month, the National Executive passed the "Law for the Promotion of the Development of the Petrochemical Industry", which established that basic and intermediate petrochemical industries will enjoy the benefits granted by the Law for the Promotion of Natural Gas Processing Plants with Private Investment. Two of the companies that will invest in the industry are the Oswal Group from India and Terra Industries Inc from the US.

Pluspetrol also signed supply contracts with the Canadian firm CF Industries (100 MMPCD) through which the latter will develop a fertilizer plant and with the Mexican company Protexa (50 MMPCD) which will build a methanol plant.

In January 2008 the consortium made up of YPF, Petrobras and Burlington confirmed the discovery of 2 TCF of gas reserves in Block 57, located in the Madre de Dios basin (adjacent to Camisea), after drilling a first well called Kinteroni X1.

Additionally, the country is expected to implement programs to encourage the conversion of the car fleet to CNG (compressed natural gas) and LPG.

With these actions, Peru is the leading investment destination in Latin America for hydrocarbon production. The country has a total of 64 licensing contracts in force for oil and natural gas production, 24 of these signed in 2007, with investment commitments in the range of US$ 900 million over the following 7 years, making it the country in the region with the largest number of contracts, spanning a total area of 486,000 km2.

Electric Power/Electricity

In 2007 electric power generation and the maximum system demand grew 10.1% and 10.8% respectively. The main electric power generating companies were hydraulic: Electro Perú (37.3%), Edegel (23.3%) and Egenor (10.8%). The main steam electric power generators were: Edegel (37%), Enersur (33.6%) and Termoselva (12.7%).

Unlike hydraulic electric power generation, which dropped 0.4%, steam generation grew 42% driven by higher demand and the availability and supply of natural gas, accounting for 31.8% of total electricity generation. This increase was also attributed to the first full year of operation of the combined cycle unit of the Central Ventanilla station and the start-up of operations of Phase II of ChilcaUno and Kallpa Generación in July that year.

Compared with the relatively low levels of investment in recent years, which could constitute a potential problem, investments over US$ 2.1 billion are scheduled in generation and transmission during the period 2008 – 2010. Investments in generation are expected to amount to US$ 1.45 billion and are destined to expand the system capacity by approximately 2,000 MW, of which 65% would be provided by steam plants. The main hydraulic plant projects include Quitaracsa I and II, El Platanal and Santa Rita; steam plants include Chilca, Kallpa II and III, Chilca – TG 3 CC and the expansion of Santa Rosa.

Additionally, the promotion of electric power generation based on renewable energy resources through tax rebates on this type of investment is being debated in Congress. Also, the Temporary Transmission Plan was approved for the period 2007 – 2008, destined to expand and strengthen the electric transmission capacity. However, Osinergmin must urgently publish the formula for calculating the maximum bid price, since the delay could lead future calls for tender to be declared void.

Electricity transmission projects are expected to increase during 2008, with Zapallal – Chimbote as one of the main ones (with an approximate investment of US$ 34 million). This project is destined to strengthen the power transmission in the Center North area. Additionally, the expansion of the San Gaban

substation in Puerto Maldonado will commence this year with an investment of US$ 20 million.

The regulatory framework is also expected to improve with new rules associated with the Law governing Electric Concessions that could spur investment in the power generation and transmission sector.

Uruguay

This small country positioned between Argentina and Brazil has one of the highest standards of living in South America. Yet, Uruguay has no proven hydrocarbon resources, and is wholly dependent on imports for oil, natural gas, and coal. Hydroelectricity is the main source of domestic energy production.

Oil

To meet its current oil consumption, Uruguay must import 40,000 bbl/d. The state-owned oil company, Administración Nacional de Combustibles, Alcohol y Portland (ANCAP), has control of the entire oil sector. There have been efforts to privatize ANCAP, but these attempts have failed due to lack of public support.

There is a single refinery in the country with an installed capacity of 50,000 bbl/d. ANCAP owns and operates the La Teja refinery. Petróleos de Venezuela (PDVSA) and J&S Service and Investment Ltd. are the suppliers of crude oil.

Natural Gas

In the late 1990's, Uruguay began importing natural gas from Argentina as a means of diversifying its energy mix. There are two pipelines in Uruguay, one in the North and another in the South.

The northern one is operated by ANCAP, while the southern one has been constructed and is exploited by private companies and ANCAP under the public concession law (the concession lasts 30 years).

There is a project to build a regasification terminal (LNG). In April 2008, Ancap and its Argentine counterpart Enarsa, along with Uruguay's electricity company, UTE, will jointly manage 25 million cubic metres per day liquefied natural gas plant in Uruguay.

Electricity

The main government objectives in the electricity sector are to maintain competitive prices for local as well as regional alternatives and enhance the domestic supply with conventional options and alternative energies.

The fuel mix of Uruguay's electric supply varies with the water flows available to the hydroelectric dams. With 74% of its 2052 MW of total installed generation capacity being run-of-river hydroelectric plants (renewable energy), droughts have a big impact on the electric system. For example, in 2003 energy imports were approximately 5% of electric power consumption, while in 2006 this figure rose to approximately 35% due to low water levels for hydroelectric plants.

To secure a balanced generation system, the hydro supply is complemented with other options including international interconnections and local steam power plants. Currently, the system has 525 MW of installed steam capacity and the interconnections have a capacity for 2000 MW with Argentina and 70 MW with Brazil. Peak power consumption in Uruguay in 2006 was approximately 1409 MW, with a related annual energy consumption of 8189 GWh.

The electric market is composed of a state owned utility (UTE), which is active in all the segments of the business, and a bi-national hydroelectric plant with Argentina - Salto Grande, 1890 MW - managed

by a specific Commission. In November 2006 the government opened a steam electric power plant in the west of Montevideo, with a capacity of 200 MW. The government also plans to incorporate two turbines of 50 MW each. Brazil and Uruguay are planning to build a new interconnection between San Carlos (Uruguay) and Presidente Medici (Brazil).

Based on the new Electric Sector Law enacted in 2002, the industry will recognize three main activities: generation (in a competitive environment), transmission and distribution, which will be regulated and will compete against established standards. The independent regulator unit is URSEA. The law also created ADME, the electric market administrator, with specific authority over Uruguay's wholesale electric market. In November 2007, a law was passed granting fiscal benefits for biodiesel production.

Venezuela

Venezuela is the fifth largest oil exporting country in the world and has the third largest proven oil reserves - at 80 bbl. This does not include the proven reserves of extra-heavy oil and bitumen, which are currently estimated at an additional 235 bbl. Venezuela is a founding member of the Organization of Petroleum Exporting Countries (OPEC). Under President Chavez, the Venezuelan government has increased its control over the oil and gas sector through the state-owned company, Petróleos de Venezuela (PDVSA).

The Venezuelan Hydrocarbons Law enacted in 2001 has introduced significant changes and produced remarkable consequences in the legal, operating, and organizational areas of the country's petroleum industry. These changes are focused on increasing the national income, as well as redefining the percentage of shares and level of private sector involvement that will be allowed for both local and foreign interests.

The Venezuelan Gas Hydrocarbons Law allowed private sector involvement up to 100% in non-associated projects and involvement in gas projects through a license and established royalties of 20-30%. The Venezuelan Income Tax Law decreased the income tax rate from 67.7% to 50% for all petroleum activities.

During 2006 and 2007, 32 operating agreements and 4 heavy oil projects underwent a mandatory process to convert them to Joint Ventures. As required by Venezuelan regulations, PDVSA has retained a minimum interest of 60% in each Joint Venture. Consequently, a maximum 40% share is available to local or foreign private companies. During 2007 and 2008, these companies began to declare dividends for their joint venture owners, marking the start of a new framework for energy companies in Venezuela.

Despite increased Government involvement in the energy sector in recent years, a growth in private investment has been seen over the last 12 months, as many are realizing the potential for development in the hydrocarbon sector.

Upstream

Venezuela's proven oil reserves are located in four major sedimentary basins: Maracaibo, Falcon, Apure and Oriental. Additionally, PDVSA has extensive reserves of extra-heavy crude and bitumen in the Orinoco Oil Belt (Faja Petrolífera del Orinoco). In May 2006, Venezuela began the process of calculation and certification of extra-heavy crude reserves in the Orinoco Oil Belt, in order to include them in the total crude reserves. In doing so, Venezuela hopes to be ranked first worldwide in terms of oil reserves. This would also have an impact on the country´s petroleum production rate established by the OPEC, which is based on proven reserves.

Venezuelan coal reserves of 8,538 million metric tons are located in underground and surface mines. Coal production reaches approximately 8.0 million metric tons annually. The State of Zulia, in western Venezuela, is the main coal production area and holds the greatest reserves nationwide.

Strategic Objectives

In 2004, the Venezuelan Government established the Strategic Oil Plan (Plan Siembra Petrolera), with a view of increasing and sustaining hydrocarbon production in Venezuela. The plan includes five oil and gas development principles described below. This plan was established to create a road map for investment in the Venezuelan Hydrocarbons sector for the years to come.

a. - Certification of the Orinoco Oil Belt (Project Magna Reserve)

In June 2005, the Ministry of Oil and Energy assigned the Project Magna Reserve to the Corporación Venezolana de Petróleo (CVP, subsidiary of PDVSA), to quantify and certify the reserves in the Orinoco Oil Belt. This strategy intends to make the Orinoco Oil Belt a centre of economic, social, industrial and technological development in the country through the optimal development of its hydrocarbon resources, in line with the legal framework and the national development plan.

To quantify and certify the reserves, the Orinoco Oil Belt was divided into four large areas: Boyacá, Junín, Ayacucho, and Carabobo; these were in turn divided into twenty-eight blocks (excluding the former Joint Venture areas), of which sixteen will be quantified and certified in a joint effort by CVP and eighteen state and private companies from fifteen different countries, which have signed understanding agreements with PDVSA for this purpose. The goal is to certify at least 235 billion BBL of crude oil. The remaining blocks will be certified in the coming years, and private investors will be invited to join the other companies vying for a certification contract.

Since the project started in 2005, and up to the end of 2007, 20 billion BBL of heavy crude oil have been quantified and certified by the Ministry of Oil and Energy, out of the 235 billion BBL estimated by the project. In other words, until 2007 more than 9% of the total goal has been met and is expected to be reached by the end of 2009.

b. - Expansion of Projects in the Orinoco Oil Belt

This consists in the integral development of the northern region of the Orinoco with a focus on a social infrastructure that will contribute to the country´s development. With quantified and certified reserves, the Orinoco Oil Belt will become the basis of the country´s sustainable development from the social, industrial, economic and technological viewpoint. To achieve this objective, the state will realize a master plan for sustainable development that encourages projects that not only relate to hydrocarbons. The plan envisages the development of three production modules for 615MBD of upgraded crude oil with third party involvement; moreover, two cities will be constructed around the heavy crude oil processing complex to promote a population dilution process. This is expected to stimulate the regional economy, generate jobs and foster the settlement of population away from the main centers in the northern coastal region.

c. – Production in traditional areas

Outside of the Orinoco belt and onshore in Venezuela, exploration and production projects are required to increase the production to 5.8 MMBD by the year 2012 from current production levels of 2.9 MMBD, in line with the oil sources conservation policy enacted by the Ministry of Energy and Oil, the development of plans to replace oil reserves and investments to increase the output factor. These investments comprise source management techniques, infrastructure optimization and development in keeping with the industrial sector and the environment.

Additionally, and in line with the crude oil development strategy for the Orinoco Oil Belt, the incorporation of reserves of 1.495 MMBls of condensed, light and medium crude oil during 2008-2012 will be considerable.

d. – Offshore Gas Development

The objective of this project is the integral industrial development of offshore gas sources in the eastern and western regions of the country. This includes a planned production of 1.470MMPCD and 1,200 MMPCD in the Deltana Platform and Mariscal Sucre Platform, respectively, and an expected production of 1,000 MMPCD in the Rafael Urdaneta Platform. These projects intend to balance the Venezuelan energy mix to provide regional energy integration, including the supply of gas to Latin American, Caribbean and Atlantic basin countries, and the development of the region's industrial potential.

The construction of the Gran Mariscal de Ayacucho Industrial Complex (CIGMA) currently underway in the state of Sucre will provide treatment and conditioning of this offshore gas. This complex includes a petrochemical plant, storage areas, docks and terminals, gas liquefaction plants and an industrial park.

The Gas Development sector will gain increasing importance in the hydrocarbon mix in Venezuela as the country's proven natural gas reserves of 148.9 billion cubic feet constitute the eighth largest proven reserves worldwide and account for 29% of continental proven reserves in America.

e. – Increased and improved refining activities

Venezuela´s crude oil processing capacity will be increased through the creation of new refining centers: Cabruta, with a capacity for 400 MBD; Refinería Zulia, with a capacity for 200 MBD; Batalla de Santa Inés, 50 MBD; and Caripito with 50 MBD for asphalt production. In addition, processes carried out at the existing plants (Refining Center Paraguaná, Puerto La Cruz, and El Palito) will be optimized to increase the processing of oil residuals and obtain more intermediate distilled products.

This refining expansion and optimization plan will be combined with agricultural energy projects for the production of ethanol as a gasoline additive and is expected to have a significant impact on land usage and territorial consolidation.

A number of projects are being considered by the PdVSA to improve the refining capacity in importing companies with a view to improving the market competitiveness of Venezuelan crude.

Downstream

Venezuela has one of the largest refining systems worldwide, with a total capacity of approximately 3.3 mbd. This system is comprised of five refineries located in the country with a full capacity for 1.2 mbd, and another group of refineries located in Europe, the Caribbean and the U.S.A. Western Venezuela has one of the main refining complexes in Latin America: the Complejo Refinador Paraguaná (Paraguana Refining Complex), with a full capacity for 940,000 barrels daily (bd).

PDVSA's downstream operations include the fully-owned U.S. subsidiary, CITGO. CITGO controls 734,000 bbl/d of the refining capacity.

Gas

In the 1990s the Venezuelan government decided to assign local and/or foreign private companies a share in the gas sector under certain conditions. Current gas production reaches 6,300 million cubic feet a day, and is expected to reach 11,300 million cubic feet a day by 2012. A group of projects were designed to contribute to the attainment of this growth objective.

Electricity

In October 2007 the National Electricity Corporation (Corporación Eléctrica Nacional, S.A). was established and placed under the direct control of the Ministry of Oil and Energy. The company was created as a state enterprise whose main objective is the generation, transmission, distribution and marketing of electric power to guarantee reliable electricity supply for the national territory. The company is able to acquire interest in existing commercial electricity companies either with a controlling interest or in the form of a joint venture.

According to the Electric Area Reorganization Law, the companies C.A. Energía Eléctrica de Venezuela (ENELVEN), Compañía de Administración y Fomento Eléctrico, S.A. (CADAFE); CVG Electrificación del Caroní, C.A. (CVG-EDELCA), Energía Eléctrica de la Costa Oriental del Lago, C.A. (ENELCO), Energía Eléctrica de Barquisimeto, S.A. (ENELBAR), Sistema Eléctrico del Estado Nueva Esparta, C.A. (SENECA), C.A. Luz y Fuerza Eléctricas de Puerto Cabello (CALIFE), C.A. Electricidad de Valencia (ELEVAL), as well as all further subsidiaries of Corporación Eléctrica Nacional, S.A., will be forced to merge into a single legal entity within three years of the publication of the aforementioned law.

Hydroelectric generation projects and all dispersed transmission activities will be under the control of Edelca.

Section 3
About PricewaterhouseCoopers

At PricewaterhouseCoopers, our primary goal is to create a unique experience for each and every client. To accomplish this goal, we maintain a robust training program, designed to enrich not only our technical skills, but also to keep us abreast of the industry issues that our clients face. We examine the issues, and build teams of subject matter specialists who develop appropriate solutions through our assurance, tax and advisory services. For global clients, we put together experienced teams from around the world who contribute a local understanding in addition to global experience. At PricewaterhouseCoopers, we not only examine the industry issues to understand your concerns, but we are also committed to constantly evaluating and enhancing our well-developed services to better meet your needs.

PricewaterhouseCoopers has been providing professional services to energy companies for more than 100 years. We help companies confront the industry's most challenging changes and issues by developing effective solutions and strategies.

PricewaterhouseCoopers is located wherever the industry is exploring for, producing, manufacturing and selling hydrocarbons. More than 3,100 specialists are assigned full-time to the Global Energy Group, making it the largest group of its kind in the industry. We have over 300 partners serving global energy companies worldwide. Headquartered in Houston, Texas our Global Energy Group has thirteen regional Centers of Excellence in key industry locations to better support our clients.

Our audit market share of global energy companies is 32%, and we provide extensive advisory and tax services to another 32% of the market. We are committed to serving this important global industry and will continue to invest our time and resources in the major energy centers.

Section 4
Map and Exhibits

Geographical Features Map with Political division

Exhibit 1: General Information

Country	Surface Aerea (Mkm2)	Population (Millions)	GDP (current US$ billions)	GDP (current us$ billions p.c.)	External debt total (DOD, current us$ billions)
Argentina	2.8	39,13	214,24	5,48	1221
Bolivia	1.1	9,35	11,16	1,19	52
Brazil	8.5	189,32	1.067,47	5,64	1.941
Chile	0.8	16,43	145,84	8,88	479
Colombia	1.1	45,56	153,41	3,37	396
Ecuador	0.3	13,20	41,40	3,14	165
Paraguay	0.4	6,02	9,28	1,54	34
Perú	1.3	7,58	92,42	3,35	281
Uruguay	0.2	3,31	19,31	5,83	98
Venezuela	0.9	27,02	181,86	6,73	446

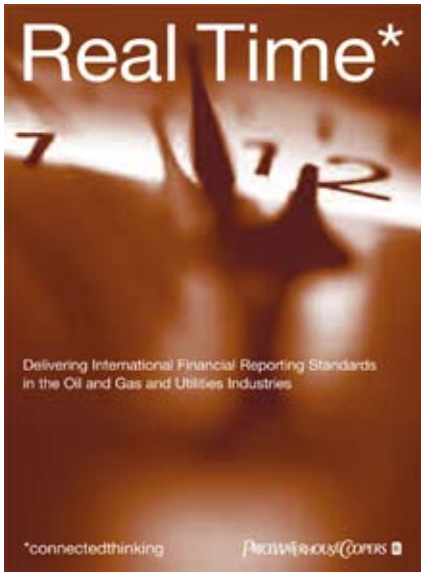
Source: wordbank.org (2006)

Exhibit 2: General Information

Country	Oil		Gas		Refinery Capacity (Thousand Barrels per Day)	Electricity Generation (terawatts/hours)
	Reserves (Billion Barrels)*	Production (Thousand Barrels per Day)	Reserves (TCF)*	Production (BCM 2007)		
Argentina	2,5	791	15,5	44,8	611	112.9
Bolivia	-	62	26,1	13,5	-	-
Brazil	11,8	2.279	12,9	11,3	1,941	419.10
Chile	-	12	3,5	-	-	55.1
Colombia	1,5	543	4,4	7,7	-	52.30
Ecuador	4,5	512	-	-	-	-
Paraguay	-	-	-	-	-	-
Perú	1,0	113	12,54	-	-	-
Uruguay	-	-	-	-	-	-
Venezuela	80	2.667	181,8	28,5	1,289	117.80

* December 2007
http://www.eia.doe.gov/international/
Source: BP Statistical 2006 (bp.com)
BP Statistical Review of World Energy June 2008

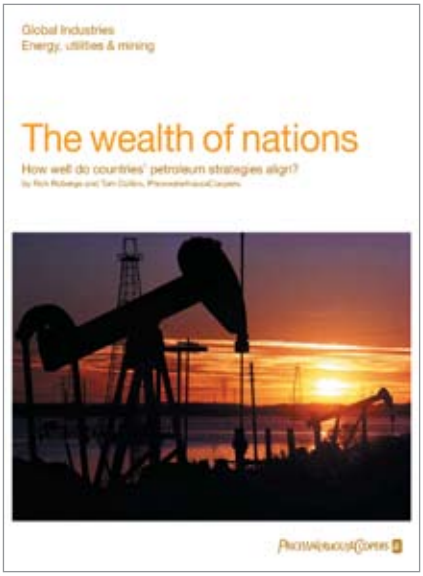
Section 5
PricewaterhouseCoopers publications



Real Time*

Delivering International Financial Reporting Standards in the Oil and Gas and Utilities Industries.

International Financial Reporting Standards (IFRS) are now very real for companies around the world. With many companies at the end of their first full IFRS reporting period, we publish Real Time, which examines the reality of reporting under the new standards for companies in the oil & gas and utilities sectors.



The wealth of nations

How well do countries' petroleum strategies align? by Rick Roberge and Tom Collins, PricewaterhouseCoopers.

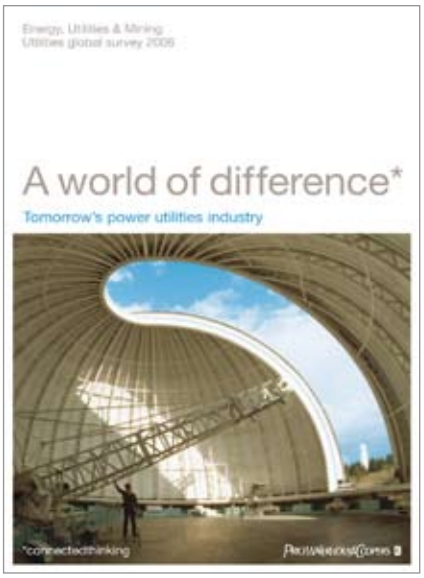
In a time when the industry is undergoing more intense competition in search of new reserves, analyzing who the principle players are, and how they interact, can help to determine where the best opportunities are for new investment. International oil companies (IOCs), national oil companies (NOCs) and oilfield services firms are the key players in the global search for new supply.

O&G Deals*

2007 Annual Review

Mergers and acquisitions activity within the global oil and gas market.

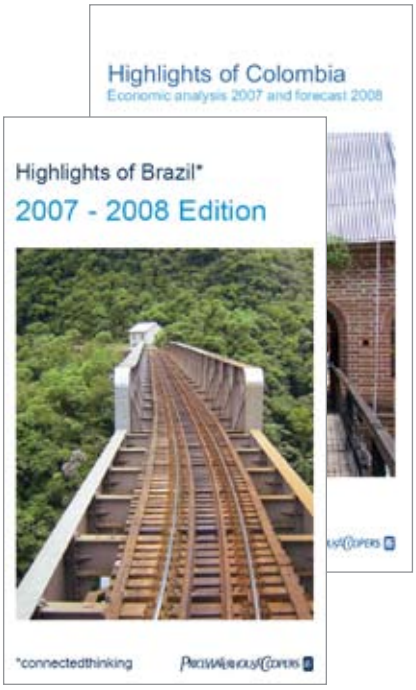
O&G Deals 2007 reviews M&A activity in the oil and gas industry. We examine both the rationale behind the overall trends and look at the key individual deals. Deal activity in the oil & gas industry was characterised by a wide diversity of forces in 2007. M&A opportunities for the majors remained limited. Activity by the national oil companies (NOCs) was also relatively subdued. Private equity assumed a very high profile and was a major driver of O&G deals. Oilfield service consolidation accelerated sharply leading to a huge increase in service deal value.



A world of difference*

Tomorrow's power utilities industry.

2008 marks the tenth year of our energy utilities global survey. The changes witnessed in the last 10 years have been enormous. The changes that lie ahead are likely to be no less momentous. New technologies, unforeseen possibilities, changed expectations will all play their part. In this tenth anniversary survey, we take a look at the views of senior utility company executives on some of the key issues they face today and into the future.



Highlights

It presents an overall description of the main economic events that took place in the country, as well as information on relevant indicators which should serve as a useful tool to understand the current economic environment.

5 th CEO Survey

We are pleased to share with you the results of our 5th CEO Survey - South America with renewed confidence in the future of our region as well as with a recurring feeling of frustration, as once again it is clear that we continue to be hampered by a tremendous opportunity cost. This becomes clear when we compare where we were five years ago with where we are and question where we could be. We believe this comparison is necessary because we may be misled by the progress achieved if we do not take into consideration the progress that was possible.

We would like to think that the results of our survey can effectively contribute to the awareness of where we could be and to the mobilization of all the stakeholders towards a better future.

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