Energy (Oil & Gas)
Latin America
Special Report

Latin American Oil and Gas

Lower Prices to Reduce Sector Investment

Analysts

Daniel R. Kastholm, CFA
+1 312 368-2070
daniel.kastholm@fitchratings.com

Jose Luis Villanueva, CFA
+1 212 908-9158
joseluis.villanueva@fitchratings.com

Lucas Aristizabal
+1 312 368-3260
lucas.aristizabal@fitchratings.com

Ana Paula Ares
+54 11 5235-8121
ana.ares@fitchratings.com

Cecilia Minguillon
+54 11 5235-8123
cecilia.minguillon@fitchratings.com

M. Beatriz Moreno
+56 2 499-3315
beatriz.moreno@fitchratings.com

Debora Ribeiro Jalles
+55 11 4504-2607
debora.jalles@fitchratings.com

Related Research

- *Latin American Power 2009, Jan. 29, 2009*
- *Oil and Gas Credit Metrics to Fall in 2009 as Commodity Bubble Bursts, Dec. 11, 2008*
- *Rating Review of Emerging Markets, Nov. 10, 2008*
- *Latin American Corporate Liquidity: Waiting for Springtime, Nov. 6, 2008*
- *Global Economic Outlook, Nov. 4, 2008*
- *Latin American Oil and Gas 2008, Jan. 30, 2008*
- *Ratings of Public-Sector Entities, Feb. 1, 2007*

Review and Outlook

Significantly weaker hydrocarbon prices will lower free cash flow generation and deteriorate credit metrics across the oil and gas sector. A lower forward price curve will also negatively affect projected returns and put necessary investments to slow production declines at risk in many countries. In addition, the higher cost of capital and limited access to both the domestic and international debt markets are likely to drive downward revisions in national oil companies' (NOC) capital expenditures and limit increases in leverage to finance such investments. These could have a negative impact on the future reserves and production prospects in the region.

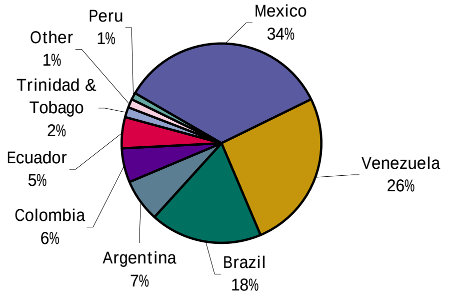
The sovereigns supporting the NOC's ratings are vulnerable to the global recession and lower commodity prices, particularly in Mexico and Venezuela where fiscal accounts are highly dependent on oil prices. Late last year Fitch Ratings changed Mexico's issuer default rating (IDR) outlook to Negative from Stable and recently downgraded Venezuela's IDR one notch to 'B+'/Stable, among other things, due to lower oil prices. Other countries such as Brazil, Chile and Colombia have more flexibility to weather the economic slowdown in 2009 as these governments are not dependent on oil-related revenues to finance their budgets. The U.S. recession also affects the net exporting companies since it is the major market for oil producers in the region, while the domestic markets' oil and gas demand is also expected to deteriorate. Fitch expects GDP growth in Latin America to decelerate to –0.1% and 1.9% in 2009 and 2010, respectively, compared with 5.2% and 3.9% in 2007 and 2008(e), respectively.

NOC's missed the opportunity to reduce debt over the last few years of strong cash flow generation, as free cash flow was either spent on capex or paid out to the sovereign. Average oil prices of about USD40/barrel in the first two months of the year are only half of the average price of approximately USD80/barrel in the last three years. Other factors negatively affecting credit quality in the sector are the growing underfunded pension plans and contingent liabilities. Pemex and PDVSA's benefits continue to increase while Petrobras' pension plan assets could decline in value due to its exposure to equity investments. Also, new environmental regulations, asset retirement requirements and lawsuits are increasing off-balance-sheet obligations. In particular, the nationalization of exploration and production (E&P) private investments in Venezuela could put a key asset into play for PDVSA in the arbitration process, which is expected to last several years. In addition to Venezuela, Bolivia continues to nationalize private investments in the industry, while Ecuador is renegotiating contracts, which could have a negative impact on oil and gas companies operating in those countries.

Liquidity in the sector remains solid as NOCs improved their maturity schedules in the last few years and most of them have access to the international capital markets. Both, Pemex and Petrobras recently issued USD2 billion and USD1.5 billion, respectively, in the international markets. Ecopetrol might follow to fund its USD6.2 billion investment plan (including acquisitions) in 2009. Petrobras is likely to finance most of its debt maturities and its aggressive capex budget with funds from BNDES, the Brazilian development bank, which has already committed USD12 billion in funds for the company. Also, the domestic capital markets remain open for the sector. In January, ENAP issued USD330 million bonds in Chile, and other companies are also likely to tap the local markets if necessary. Argentinean companies have practically had no access to the international bond markets since the crisis of 2002, and local markets are expected to be very tight in 2009 due to the privatization of pension plans in October 2008. However, Argentinean oil and gas entities have had access to pre-export financing and have solid cash positions, and revenues are expected to be more stable as companies realized a maximum oil price of USD42/barrel due to the fiscal regime in the country. Finally, PDVSA's USD2.2 billion in short-term debt is quite manageable given the company's still sizable free cash flow generation in a lower price environment and USD6.8 billion cash position.

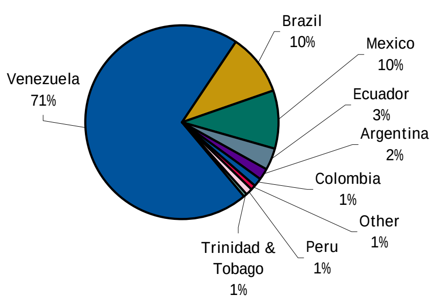
In 2008, the Latin American oil and gas sector experienced historically high hydrocarbon prices, increased investments in E&P and made extraordinary tax contributions due to progressive fiscal regimes. Mexico finally passed the long awaited Energy Reform, which was a positive development for the industry but fell short in providing the incentives to attract the necessary capital and technology for the growth of the sector. PEMEX's oil production declined by more than 9% in 2008 as Cantarell's 32% production decline was only partially offset by growth at Ku-Maloob-Zaap. Petrobras continues its aggressive growth plan, unveiling a USD174.4 billion investment budget for the next five years, which for the first time includes funds for its pre-salt area in Santos basin. This investment plan is 55% higher than the previous USD112.4 billion five-year plan. PDVSA continues to play a key role in the implementation of government policies. In 2008, it changed its charter and mission statement to be able to participate in any industry, including health care, education and housing. Contrarily, Ecopetrol continues to follow a more private sector model by strengthening market oriented policies after its IPO in 2007 and ADR listing in the NYSE last year. ENAP saw its balance sheet strengthen after the government injected USD250 million of capital into the company and amended the stabilization fund mechanism to ensure the financial health of the company. Finally, after the privatization of the pension funds last year, the Argentinean government owns part of the oil and gas companies in the country, including a 10% stake in Petrobras Energía.

Oil Production in Latin America
(2007)



(10,111 Mil. bpd)

Proved Oil Reserves in Latin America
(2007)



(123.4 Bil. Barrels)

Bpd — Barrels per day.
Source: BP Statistical Review of World Energy, June 2008.

Rating Drivers

Linkage to the Sovereign

Sovereign Linkage

(USD Mil.)

	Pemex BBB/Stable	PDVSA B+/Stable	Petrobras BBB/Stable	Ecopetrol BB+/Stable	ENAP A/Stable	YPF BB–/Stable	PESA BB–/Stable	PAE BB–/Stable
Country	Mexico	Venezuela	Brazil	Colombia	Chile	Argentina	Argentina	Argentina
Sovereign's IDR	BBB+/Negative	B+/Stable	BBB–/Stable	BB+/Stable	A/Stable	B/Stable	B/Stable	B/Stable
Government Ownership (%)	100	100	40	90	100	NS	10	NS
NOC Debt/Public Sector Debt (%)	13	29	4	NS	11	NS	NS	NS
Expected Real GDP Growth (2009/2010) (%)	(1.8)/1.5	(1.2)/(2.4)	1.0/2.7	1.4/2.8	0.5/1.8	(1.0)/1.2	(1.0)/1.2	(1.0)/1.2
Net Oil Exports (% of GDP)	2	24	NS	4.5	NS	NS	NS	NS
Royalties and Tax Payments/Government Revenues (%)	33	51	13	19	NA	NS	NS	NS
Total Contributions to the Government/Revenues (%)	59	45	48	48	NA	24	5	44
Total Contributions to the Government in 2007	61,996	43,673	42,284	5,976	—	2,643	248	1,302
Royalties, Production and Extraction Taxes	61,124	18,820	34,852	1,880	—	617	96	219
Income Tax	847	8,383	5,888	1,928	—	736	38	340
Dividends	24	2,573	1,544	2,169	—	—	—	—
Other Contributions to the Government	—	13,897	—	—	—	1,290	114	743

IDR – Issuer default rating. NS – Not significant as the metric represents less than 2%. NA – Not available.
Source: Fitch Ratings and company reports.

The Latin American oil and gas sector is predominantly owned and operated by sovereigns, which influence these entities as they generate a substantial portion of the government's revenues, particularly in Mexico and Venezuela. In many cases, the NOC's ratings move in tandem with those of the sovereign, as these companies are important to the local economies, representing a significant portion of public sector debt and government income. The same factors that have an impact on the government influence the NOC's ratings such as the price of oil — hence the high correlation between the sovereign and the NOC's IDRs in the case of Mexico and Venezuela. This very strong correlation is reflected by Pemex and PDVSA's IDRs, which are on par or one notch below their respective sovereign's IDR.

Also, the NOC's ratings linkage to the sovereign derives from political intervention and energy policies dictated by the government, such as pricing controls and special taxes. The government influence in the operating decisions of NOCs is mitigated by the ownership diversification in the case of Petrobras and Ecopetrol. Having a mixed capital structure with partial private sector ownership reduces political intervention and improves the market-oriented policies of the companies. A lower correlation between the public sector entity and the sovereign's IDRs allows for NOC's ratings to be up to three notches above those of the sovereign.

Commodity Prices

With the decline in commodity prices witnessed during the second half of 2008, the importance of commodity prices to the forward outlook for most energy companies has increased. During the past few years, commodity prices have been significantly above Fitch's long-term expectations, and as a result, most companies were able to generate ample cash flows to maintain reserve and production profiles. As prices have moved lower, "excess" cash flows have dried up, and funds available for investments, shareholders (primarily the government) and deleveraging are limited. However, as long as prices remain at USD40/barrel, oil production in the region should remain profitable for the most part. Prices below that level in 2009 and 2010 on a sustained basis would deteriorate margins further and could put pressure on ratings. Moreover,

Summary of Historical Hydrocarbon Prices

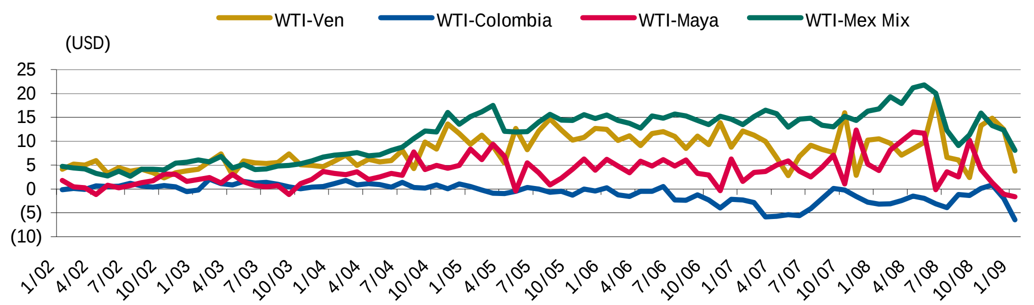
	Oil Prices — WTI ($/bbl)			Natural Gas Prices — Henry Hub ($/mcf)		
	Avg. Price	Max. Price	Min. Price	Avg. Price	Max. Price	Min. Price
1997	20.58	26.62	17.60	2.48	4.60	1.79
1998	14.38	17.82	10.76	2.08	2.64	1.03
1999	19.30	27.92	11.37	2.27	3.08	1.65
2000	30.37	37.21	23.90	4.30	10.50	2.14
2001	25.96	32.19	17.45	3.96	10.20	1.74
2002	26.17	32.72	17.97	3.37	5.29	1.98
2003	31.06	37.83	25.24	5.49	19.38	3.99
2004	41.51	56.17	32.48	5.90	8.14	4.40
2005	56.59	69.81	42.12	8.89	15.39	5.50
2006	66.09	77.03	55.81	6.73	9.87	3.63
2007	72.23	98.88	50.48	6.97	9.07	5.29
2008	99.92	145.29	31.41	8.89	13.31	5.37
2009 (YTD)	40.34	48.81	33.98	4.96	6.11	4.20

Bbl – Barrel. Mcf – Thousand cubic feet.
Source: Bloomberg.

higher cost production and investments in deepwater operations would be discouraged, putting production and reserve targets in the region at risk.

The interaction between supply and demand will ultimately determine the future price of oil. On the supply side, OPEC cuts are unlikely to have a significant impact on prices given the global recession and production capacity additions in the next couple of years. Fitch currently expects that the world economy will enter into a severe recession, with the major advanced economies (U.S., Euro area, U.K. and Japan) witnessing negative GDP growth of –1.4% in 2009, the steepest decline in GDP since World War II. World GDP is expected to contract at 0.4%, compared with an average growth of 3.5% over the last five years. So the picture is not very compelling for price increases in the short-term. Fitch expects oil prices of USD55/barrel in 2009, USD57.50/barrel in 2010 and USD60/barrel in the long term under a base-case scenario. Under a stress-case scenario, Fitch expects USD40/barrel, USD42.50/barrel, and USD45/barrel, respectively.

Latin America Crude Oil Price Discount to the WTI
(WTI Minus Country Spot Prices)



Source: Bloomberg.

Liquidity and Operating Metrics

Liquidity in the sector remains solid as NOCs improved their maturity schedules in the last few years and most of them have access to the international capital markets. Both Pemex and Petrobras recently issued USD2 billion and USD1.5 billion, respectively, in the international markets. Ecopetrol might follow in order to fund its USD5 billion investment plan in 2009. Petrobras is likely to finance most of its debt maturities and

Liquidity

(USD Mil., As of September 2008)

	Pemex BBB/ Stable	PDVSA B+/ Stable	Petrobras BBB/ Stable	Ecopetrol BB+/ Stable	ENAP A/ Stable	YPF BB–/ Stable	PESA BB–/ Stable	PAE BB–/ Stable
Cash	13,815	6,842	5,547	2,536	93	308	348	299
Short-Term Debt	7,662	2,159	6,078	—	843	947	704	324
Cash/Short-Term Debt (x)	1.8	3.2	0.9	NA	0.1	0.3	0.5	0.9
EBITDA – Capital Expenditures/Short-Term Debt (x)	8.2	15.2	1.4	NA	(0.4)	1.8	0.3	1.0

NA – Not applicable.
Source: Fitch Ratings and company reports.

its aggressive capex budget with funds from BNDES, the Brazilian development bank, which has already committed USD12 billion in funds for the company. Also, the domestic capital markets remain open for the sector. In January, ENAP issued USD330 million bonds in Chile, and companies are also likely to tap the local markets if necessary. Argentinean companies have practically had no access to the international bond markets since the crisis of 2002, and local markets are expected to be very tight in 2009 due to the privatization of pension plans in October 2008. However, Argentinean oil and gas entities have access to pre-export financing and have solid cash positions, and revenues are expected to be more stable as companies realized a maximum oil price of USD42/barrel due to the fiscal regime in the country. Finally, PDVSA's USD2.2 billion in short-term debt is quite manageable given the company's free cash flow generation and USD6.8 billion cash position.

Despite production growth in Venezuela, Brazil and Colombia, oil production in Latin America is expected to fall in 2008 due to production declines in Mexico and Argentina. With the Energy Reform and an aggressive capex plan, PEMEX expects to reverse the 9% oil production decline experienced in 2008. In Argentina, the government allowed higher prices for oil and gas products and introduced incentives to promote production. Meanwhile, production is also expected to decline in Venezuela in 2009 amid OPEC

Operating Metrics

	Pemex BBB/ Stable	PDVSA B+/ Stable	Petrobras BBB/ Stable	Ecopetrol BB+/ Stable	ENAP A/ Stable	YPF BB–/ Stable	PESA BB–/ Stable	PAE BB–/ Stable
Upstream Metrics								
E&P Production (000 boepd)	4,400	4,021	2,300	446	68	645	133	243
Oil	3,100	3,322	1,918	360	33	335	77	119
Gas	1,300	699	382	86	35	310	56	124
P1 Reserves (Mil. boepd)	14,700	129,000	11,191	1,499	NA	1,283	483	1,500
Oil	10,437	99,330	9,154	1,051	NA	623	266	885
Gas	4,263	29,670	2,037	448	NA	660	217	615
P1 RRR (%)	50	1,148	123	66	NA	8	NA	400
Reserve Life or R/P Ratio (yr)	9.2	87.9	13.3	9.2	NA	5.4	10.0	16.9
Oil	9.2	81.9	13.1	8.0	NA	5.1	9.4	20.4
Gas	9.0	116.3	14.6	14.3	NA	5.8	10.7	13.6
Downstream Metrics								
Refining Capacity (000 bpd)	1,540	3,100	2,267	330	237	320	26	—
Domestic Refineries	6	7	11	2	3	3	2	—
Total Refineries	7	21	15	2	3	3	2	—

Boepd – Barrels of oil equivalent per day. E&P – Exploration and production. NA – Not available. P1 Reserves – Proved reserves. RRR – Reserve replacement ratio. Reserve life or R/P – Reserves over production in years. Note: 2008's proven oil and gas reserves and RRR may be revised downwards as the SEC disclosure rules require that firms test the economic viability of reserves based on year-end hydrocarbon prices, which declined significantly from 2007 levels. For more information on this issue please see the report titled "Lower Oil Prices to Pressure Debt/Reserve Metrics in 2009," published by Fitch's North American oil and gas analyst, Mark Sadeghian, on Jan. 12, 2009.
Source: Fitch Ratings and company reports.

restrictions. Reserve lives in the region are healthy and higher than nine years except at YPF. However, production trends will continue to be a concern in Mexico and Argentina. With lower hydrocarbon prices, tight credit markets and higher cost of capital, aggressive capital budgets might be curtailed, putting the oil and gas production in the region at risk.

Leverage and Contingent Liabilities

Leverage

(USD Mil., As of September 2008)

	Pemex BBB/ Stable	PDVSA B+/ Stable	Petrobras BBB/ Stable	Ecopetrol BB+/ Stable	ENAP A/ Stable	YPF BB–/ Stable	PESA BB–/ Stable	PAE BB–/ Stable
Total Debt	48,432	14,824	29,739	—	1,780	1,162	2,224	1,494
Off-Balance-Sheet Debt	51,317	19,338	36,546	876	—	—	—	—
Adjusted Debt	99,749	34,162	66,285	876	1,780	1162	2224	1494
Leverage (x)[a]	0.6	0.3	0.8	0.0	32.7	0.3	1.9	1.1
Adjusted Leverage (x)[b]	1.3	0.7	1.7	0.1	32.7	0.3	1.9	1.1

[a]Leverage = Total debt/EBITDA. [b]Adjusted leverage = Adjusted debt/EBITDAR.
Source: Fitch Ratings and company reports.

NOCs missed the opportunity to reduce debt in the last few years of strong cash flow generation so credit metrics are likely to deteriorate in 2009. Credit metric improvements in the last few years resulted from EBITDA increases, as companies financed investments primarily with leverage. Now, NOCs will have to decide if they want to lever up to finance aggressive capex programs set during the multi-year run up in energy prices, which reached historical highs in 2008. Also, NOCs carry out significant investments in countries where infrastructure projects are an integral part of the government's countercyclical response to the economic slowdown expected this year. However, the higher cost of capital and limited access to both the domestic and international debt markets are likely to drive downward revisions in NOC's capital expenditures and limit increase in leverage, which could have a negative impact on the future reserves and production prospects of the region.

Other factors negatively affecting credit quality in the sector are the growing underfunded pension plans and contingent liabilities. Pemex and PDVSA's benefits continue to increase while Petrobra's pension plan assets could decline in value due to its exposure to equity investments, which is mitigated by the devaluation of domestic currencies. Also, new environmental regulations, asset retirement requirements and lawsuits are increasing off-balance-sheet obligations. In particular, the nationalization of E&P private investments in Venezuela could put a key asset (CITGO) into play for PDVSA in the arbitration process, which is expected to last several years. However,

Financial Metrics

(USD Mil., As of September 2008)

	Pemex BBB/ Stable	PDVSA B+/ Stable	Petrobras BBB/ Stable	Ecopetrol BB+/ Stable	ENAP A/ Stable	YPF BB–/ Stable	PESA BB–/ Stable	PAE BB–/ Stable
Revenues	131,273	142,921	121,244	17,681	12,669	11,053	5,014	2,945
EBITDA	75,144	50,742	35,268	8,564	54	3,895	1,153	1,419
EBITDA Margin (%)	57.2	35.5	29.1	48.4	0.4	35.2	23.0	48.2
Capex	12,228	17,970	27,030	2,576	411	2,156	907	1,090
Capex/Revenue (%)	9.3	12.6	22.3	14.6	3.2	19.5	18.1	37.0
Capex/EBITDA (%)	16.3	35.4	76.6	30.1	755.2	55.4	78.7	76.8

Source: Fitch Ratings and company reports.

since the credit metrics of PDVSA are strong and its rating is substantially constrained by the sovereign ratings, a negative outcome from the arbitration process would not necessarily result in a downgrade.

Mexico: Petroleos Mexicanos (PEMEX)

Last year, the Mexican Congress approved a comprehensive reform of both the energy sector and PEMEX's legal framework called Energy Reform. The Energy Reform improves PEMEX's corporate governance, increases management's execution capacity in investment decisions, allows the company to provide incentives or make modifications to awarded contracts, and stipulates the issuance of citizen bonds (debt securities, which may be acquired by small retail investors and whose return is linked to PEMEX's performance), among other things. President Calderon's proposal to allow private sector participation in storage, transportation and refining was eliminated from the final version of the Energy Reform due to opposition in Congress. These actions, together with limited upside under contract awards, continue to limit PEMEX's capacity to attract the necessary capital and technology for the growth of the industry, in particular for off-shore drilling, which is where most of Mexico's hydrocarbon reserves are located.

Also, in 2008 a new tax regime for PEMEX went into effect, which reduces the ordinary hydrocarbon duty to 74% from 79% and will continue to decline by 0.5% a year until it reaches 71.5% in 2012. In October 2008, PEMEX's fiscal regime was modified again to increase the deduction caps for ordinary hydrocarbon duty purposes, which gives the company additional financial flexibility. Nevertheless, PEMEX's contribution to the government continues to be the highest among the Latin American NOCs and among the highest in the industry across the world. In 2007, total contributions to the government were about USD62 billion, representing 59% of total revenues. Fitch believes that while the Energy Reform and the change in PEMEX's fiscal regime are positive, they only represent one step in the right direction, and there are still significant changes to be made in the sector.

PEMEX's liquidity remains strong. As of Sept. 30, 2008, cash on hand was USD13.8 billion compared to USD7.7 billion in short-term debt. Also, the company was the first NOC to access the international capital markets in 2009 by issuing USD2 billion in bonds to help refinance USD5 billion of debt maturities this year and its USD20 billion investment budget. With relatively stable debt levels, PEMEX's 2008 credit metrics improved due to rising cash flow that has resulted in elevated oil prices throughout most of the year. As of Sept. 30, 2008, total debt was USD48.4 billion, and leverage (Debt/EBITDA) was 0.6 times (x), an improvement from 0.8x during 2007. Adjusting for an underfunded pension plan, OPEB debt and contingent liabilities associated to pending lawsuits and environmental remediation, PEMEX's total adjusted debt is USD99.7 billion and its adjusted leverage ratio is 1.3x. In dollar terms, these liabilities are declining with the current MXN devaluation and could drop even further if PEMEX reaches an accord with the union similar to the one reached by the Mexican government with public servants in 2007 (ISSTE Pension Reform).

In 2009, Fitch expects PEMEX's credit metrics to deteriorate sharply due to depressed oil prices, which partially explain Fitch's outlook revision for PEMEX. Further considered in this rating action was the revision of the Rating Outlook of Mexico (whose IDR is 'BBB+') to Negative from Stable during November 2008 and the close linkage of PEMEX's rating with that of the government. Additionally, Fitch anticipates that PEMEX may increase leverage to finance its aggressive capital budget and/or delay necessary investments to reverse declining production levels given the significantly lower cash flow generation potential in the current declining oil price environment. While the new fiscal regime and the Energy Reform are positive, they provide limited benefits to improve the company's financial flexibility and attract private investment to the industry.

Brazil: Petroleo Brasileiro S.A. (Petrobras)

In 2008, Fitch upgraded Petrobras' IDR by one notch to 'BBB'. The rating action reflects Petrobras' improving operating and financial performance as well as further strengthening of the macroeconomic and fiscal policy framework of its controlling shareholder, the Federative Republic of Brazil. During the year, Petrobras continued its aggressive growth plan, increasing its proven hydrocarbon reserves, increasing production and furthering its corporate and industry restructuring. After the significant hydrocarbon discoveries (Tupi) in 2007 (the largest in Latin America since Cantarell in 1976), the company continues an aggressive exploration and development program in the Santos, Espirito Santo and Campos basins. Recently, the company increased its investment plan for the next five years by 55% to USD174 billion.

Liquidity for the company includes USD5.5 billion cash on hand as of Sept. 30, 2008, compared to USD6 billion in short-term maturities. Its aggressive investment plan will be supported primarily by BNDES, which provides financing to strategic sectors in the country and whose budget has been substantially increased by the government due to the global liquidity issues. Petrobras expects to receive USD22.5 billon in loans from BNDES over 2009 and 2010 and is in negotiations with the China Development Bank to get up to USD10 billion in additional financing. Also, with relatively lower hydrocarbon royalties and taxes, the company should be able to generate significant cash flow despite depressed oil prices.

With its market-oriented efforts to improve efficiencies, its technical expertise in deepwater operations, a significant R&D budget, new reserve discoveries, relatively lower tax burden and the financial support of BNDES, the company should be on track to reach its total production target of 3.651 million barrels of oil equivalent per day (boepd) by 2013 from 2.4 million boepd in 2008. However, Fitch believes that the company's USD29 billion capex for 2009 may be curtailed given the declining oil price environment and increasing cost of capital. This would jeopardize the company's ability to reach its ambitious production and refining capacity targets. The key risks for the stability of the ratings are the balanced use of debt during the current, low hydrocarbon price environment and the impact of the global recession on the Federative Republic of Brazil, Petrobra's controlling shareholder. The government owns 56% of the voting shares and 40% of the total shares of this mixed capital corporation.

Venezuela — Petroleos de Venezuela S.A. (PDVSA)

In 2008, the Venezuelan government increased its grip on PDVSA after using it to finance the acquisition of electricity companies and industrial companies in 2007. In August 2008, the government changed PDVSA's charter and mission statement to allow it to participate in any industry that could contribute to the social development of the country, including health care, education and agriculture. This highlights the increasing role that PDVSA is taking in the implementation of the current administration policies and confirms the strong linkage with the sovereign. Also, last year, based on reported numbers by the company, crude oil production in Venezuela increased to 3.27 million barrels per day (bpd) in the first nine months of the year from 3.15 million bpd in 2007. However, OPEC cuts are expected to have a negative impact in the production levels in the fourth quarter of 2008 and in 2009.

In December 2008, Fitch downgraded PDVSA's IDRs one notch to 'B+' following the downgrade of the sovereign IDRs of the Bolivarian Republic of Venezuela to 'B+' from

'BB–'. The downgrade of the country's credit ratings reflects the increased risk of a financial and economic crisis in Venezuela due to the government's tenuous macroeconomic policy framework and Fitch's concerns that a timely adjustment may not be forthcoming, particularly within the context of upcoming electoral events.

Therefore, the key factors for the stability of the rating are the political and economic situation in Venezuela and the interference of the government in the taxation and operations of PDVSA. Liquidity is not expected to be an issue due to the positive cash flow generation of the company and strong cash position. Short-term maturities as of Sept. 30, 2008, amounted to USD2.2 billion while cash on hand amounted to USD6.8 billion. Also, leverage remains low with adjusted debt to EBITDA below 1.0x. However, PDVSA's cash generation is expected to drop sharply in 2009 due to lower hydrocarbon prices. As a result, the company could be pressured to reduce investments and/or to increase leverage to help the government fund its macroeconomic imbalances. PDVSA's planned investments are sizeable, totaling an estimated USD51.4 billion over the next four years.

Chile: Empresa Nacional de Petróleo (ENAP)

The ratings of Empresa Nacional de Petróleo (ENAP) reflect its 100% state ownership, favorable government support and the strategic importance of the company to its shareholder. The ratings incorporate ENAP's marked deterioration in its credit metrics over the last year as a result of the volatile price environment, increased working capital needs and higher leverage.

As a state-owned company, ENAP's foreign currency issuer default rating (FC IDR) remains linked with the credit profile of the Chilean sovereign (FC IDR 'A', Outlook Stable). ENAP plays a key role in assuring the country's energy supply, being the only refined products producer and the largest marketer in Chile, providing approximately 75% of the internal demand. A recent USD250 million equity injection and the amendment of the stabilization fund mechanism that ensures monthly payments to or by ENAP (approved by the Chilean Congress on June 2008) underscore the government's material support and its commitment to maintain the company's financial integrity. However, taking into account that the company's financial profile may be negatively impacted by its shareholder's interest to ensure the local demand, ENAP would be internationally rated well below the Republic of Chile on a stand-alone basis.

ENAP's financial profile reflects increased pressure associated with a higher cost structure and weakened credit protection measures. Total debt increased to USD1,780 million as of September 2008 (with a total debt to capitalization of 70%) from USD1,239 million in December 2007. Although Fitch expects that the company will increase its leverage over the medium term, Fitch also anticipates continued strong parent support. ENAP has proven access to bank and capital markets financing. During January 2009, ENAP issued 9.75 million of Unidades de Fomento (UF) (or approximately USD330 million), a standard monetary measure in Chile that is linked to inflation.

Argentina — A Challenging Environment

The government intervention in the energy sector has prevented Argentine oil and gas producers from fully benefiting from the favorable international oil prices experienced over the past few years. This intervention has taken the form of price controls, taxes on exports and restrictions on export volumes. Also, the lack of incentives to invest in long lead-time exploration projects and the mature nature of local fields has led to a sustained decline in oil and gas production volumes and reserve life. However, and despite moderate increases in operating costs, cash flow generation and operating margins have remained strong.

The oil and gas companies rated by Fitch enjoy a healthy financial position with their debt well structured over the long-term. The liquidity position has been preserved given the lack of international access and the small size of the Argentine capital and financial markets. Overall, access to pre-export financing remained available to the companies covered by Fitch in the industry.

Fitch foresees a challenging environment for the oil and gas companies in Argentina as an aggressive capital expenditure program is needed to prevent further production declines. Their financial flexibility will be pressured as capex will demand additional indebtedness to fund negative free cash flow and inflation pressures continue to impact the sector's margins.

YPF S.A. 'BB–'/Stable Outlook

YPF's ratings reflect the company's strong financial profile, leadership position in the local energy market and the company's vertically integrated operations. The ratings also factor in the benefits derived from the company's significant hard-currency cash generation capacity and ability to keep up to 70% of export revenues outside the country, further reducing exchange rate risk. As of September 2008 (9 month), export proceeds reached USD1,830 million, or 2.0 times (x) short-term debt at that date. Balanced against these considerations are the company's lack of asset diversification (its operations are concentrated in Argentina), declining hydrocarbon reserves and the government's intervention in the energy sector.

As of the last 12 months (LTM) ended September 2008, cash flow from operations totaled USD3.7 million (including accrued receivables with its controlling shareholder Repsol YPF of USD556 million). These funds were applied almost in the same amount to fund its capital expenditure plan and make dividend payments. The expected issuance of USD150 million notes is delayed in accordance with volatility prevailing in the capital markets.

Pan American Energy LLC (PAE), 'BB–'/Stable Outlook

Pan American Energy LLC's (PAE) ratings are supported by the company's long-lived reserve base, modest debt levels and its ability to maintain up to 70% of its export proceeds abroad. Operational strengths lie in the company's leading position in the Argentine upstream business, high reserve replacement ratio, competitive production costs and strong production growth prospects. A prudent financial strategy reflects a conservative capital structure, with average gearing below its peers. At Sept. 30, 2008, PAE's consolidated debt amounted to USD1.5 billion, up from USD1.0 billion in 2006, but remaining at conservative gearing levels (debt to capitalization at 26% and total debt to EBITDA at 1.1x). Core borrowing facilities are generally held at the Argentine branch level, and debt is adequately structured. While PAE's leverage may increase in the future, the company's financial strategy is to maintain a conservative capital structure. PAE, a Delaware company, is 60% owned by BP plc and 40% owned by Bridas Corp.

Petrobras Energía S.A. (PESA), 'BB–'/Stable Outlook

Petrobras Energía S.A. (PESA) benefits from its majority shareholder's (Petrobras Brasiliero's [Petrobras]) leadership position in both upstream and downstream operations, its brand name awareness in Latin America as well as its financial strength. On a stand-alone basis, PESA's integrated business profile, competitive cost structure and historical solid credit metrics allowed it to take advantage of capital market opportunities. As of September 2008, the company maintains a total financial debt of USD1.8 billion, mostly medium term notes with an average life of 3.6 years. Its next principal maturities are due in May of this year (USD 181 million) and in July 2010

(USD349 million). At that time, PESA had short-term debt of USD350 million, consisting primarily of obligations to financial institutions and a liquidity position of the same amount. On a stand alone basis, PESA's proven hard currency generating ability allows the company to cover 2.0x its short-term commitments. At LTM ended Sept. 30, 2008, net debt to EBITDA was 1.6x, and EBITDA to interest expense was 6.8x. The company remains exposed to the regulatory framework in Argentina.

Colombia: Promoting Private-Sector Investment

The Colombian government's strategy of promoting additional private-sector investment in the petroleum business is evidenced by the increased number of contracts granted. From 2005 to September 2008, the government agency responsible, the National Hydrocarbons Agency (ANH), had signed 151 E&P contracts and 69 technical evaluation agreements (TEA). During 2007, the ANH opened 3.3 million hectares of land for E&P contracts to private sector entities. Ecopetrol was able to obtain 10 E&P contracts during 2007.

The Colombian government aims to improve the oil sector's recovery with more attractive investment conditions. The new contract model has reduced royalty payments from a flat 20% to a sliding scale of between 8% and 25%, depending on production levels. Additionally, Ecopetrol's right to participate in every field post exploration was eliminated. In contrast to the past, Ecopetrol would also have a measure of control and participation in the operation of all successful projects, with a sharing of production and investment through association agreements.

Ecopetrol S.A. (Ecopetrol), 'BB+'/Stable Outlook

Ecopetrol's ratings are linked with the credit profile of the Republic of Colombia (local and foreign currency ratings of 'BBB–' and 'BB+', respectively), which owns 90% of the company's total capital. The company is also linked closely with the Colombian government through its exposure to changes in regulation and its receipt of subsidies from the central government.

On a standalone basis, Ecopetrol maintains a strong financial profile. Its reserves are sizable and stable, and its production levels have been increasing. These factors, plus its dominant domestic market share, allow the company to generate consistently strong cash flows from operations and meet its obligations in a timely manner. Like other companies in this sector, Ecopetrol is vulnerable to fluctuations in international commodity prices and tightening environmental regulations requiring material investment in downstream operations.

Ecopetrol's liquidity position is currently very strong as the company has no financial debt and an estimated USD2.5 billion of cash on hand as of Sept. 30, 2008. Going forward, liquidity is expected to remain strong for the company, although tighter than current levels, as its capital expenditures ramp up and debt increases.

Ecopetrol's pension liabilities are not considered a major concern for the company's credit profile due to the meaningful steps taken by Ecopetrol to address the situation. The company is responsible for the pension liabilities of all employees that have been with Ecopetrol prior to 1990. As of Dec. 31, 2007, the company's unfunded pension liabilities were approximately USD660 million or approximately 12% of total pension liabilities.

Issuer List: Energy (Oil & Gas), Latin America

Issuer Name	Country	Issuer Default/Long-Term Rating	Local Currency IDR/Long-Term Rating	National Long-Term Rating	Outlook
Pan American Energy LLC	Argentina	BB–	BB	—	Stable
Pan American Energy LLC Suc. Argentina	Argentina	—	—	AAA(arg)	Stable
Petrobras Energia S.A.(Formerly Pecom Energia S.A.)	Argentina	BB–	BB	AA+(arg)	Stable
Transportadora de Gas del Sur S.A. (TGS)	Argentina	B	B+	WD	Stable
YPF S.A.	Argentina	BB–	BB	AAA(arg)	Stable
Bolivian Oil Services — Bolser Ltda.	Bolivia	—	—	C	NA
Companhia Petrolifera Marlim	Brazil	BBB	—	—	Stable
Petroleo Brasileiro S.A. (Petrobras)	Brazil	BBB	BBB+	AAA(bra)	Stable
Empresa Nacional del Petroleo (ENAP)	Chile	A	—	AAA(chl)	Stable
Empresas Copec S.A.	Chile	BBB+	BBB+	—	Stable
Gasco S.A. (Gasco)	Chile	—	—	A+(chl)	Stable
ECOPETROL S.A.	Colombia	BB+	BBB–	—	Stable
Transportadora de Gas del Interior S.A.E.S.P. (TGI)	Colombia	BB	BB	—	Negative
Refineria Dominicana de Petroleo S.A.	Dominican Republic	—	—	A–(dom)	NA
Oceanografia, S.A. de C.V.	Mexico	B	B	—	Negative
Petroleos Mexicanos SA (Pemex)	Mexico	BBB	BBB+	AAA(mex)	Stable
Tenaris S.A.	Mexico	A–	—	—	Stable
Petroleos de Venezuela S.A. (PDVSA)	Venezuela	B+	B+	AAA(ven)	Stable

NA – Not available. WD – Withdrawn.
Source: Fitch Ratings.