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Credit Opinion: Ecopetrol S.A.

Global Credit Research - 15 Dec 2011

Bogota, Colombia

Ratings

Category	Moody's Rating
Outlook	Stable
Issuer Rating -Dom Curr	Baa2
Senior Unsecured	Baa2

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Key Indicators

Ecopetrol S.A[1]

	9/30/2011(L)	12/31/2010	12/31/2009	12/31/2008	12/31/2007
EBIT / Book Capitalization	50.9%	28.2%	22.8%	51.7%	31.5%
EBIT / Interest Expense	6.3x	61.1x	27.7x	222.9x	368.6x
Retained Cash Flow / Net Debt	220.7%	134.7%	-1.7%	-1093.4%	-94.2%
Gross Debt / Total Capital	18.1%	20.1%	19.4%	3.5%	5.3%
Gross Debt / Total Proved Reserves	$3.25	$3.25	$2.58	$0.50	$0.61
Total Proved Reserve Life (Yrs)	8.1	9.0	9.6	8.3	9.9

[1] All ratios are calculated using Moody's Standard Adjustments. Source: Moody's Financial Metrics

Note: For definitions of Moody's most common ratio terms please see the accompanying User's Guide.

Opinion

Rating Drivers

- Leading integrated energy position in Colombia

- Growing production and reserves profile

- Aggressive capital program with execution risk

- Increasing leverage profile

- GRI and piercing methodology impacts

- Political risk concerns

Issuer Profile

Ecopetrol S.A. (Ecopetrol) is Colombia's largest corporation and the state oil company, involved in the exploration, production, refining, transportation, and commercialization of crude oil and gas in Colombia. Following an IPO in 2007 and a second round share offering in August 2011, the government owns 88.5% of the company through shares held by the Ministry of Finance.

Rating Rationale

Ecopetrol's Baa2 global local currency issuer rating (GLCR) rating reflects its status as Colombia's leading oil and gas producer and positioning as a mid-sized integrated oil company, as well as its growing production, reserves and crude oil export profile. A rising level of capital investment under its Mega plan is leading to increased hydrocarbon production, primarily in heavy oil, and to the expansion of refining and distribution capacity to deliver growing oil and gas production to market. However, also factored into the rating are the staging and execution risks of its ambitious growth strategy and expectations for a rising leverage profile under the Mega plan.

Ecopetrol's Baa2 rating derives one notch of uplift under joint-default analysis based on a high level of imputed government support and moderate default correlation. Underlying the Baa2 GLCR is baseline credit assessment (BCA) of 10, equivalent to Baa3.

DETAILED RATING CONSIDERATIONS

LEADING UPSTREAM & DOWNSTREAM POSITION IN COLOMBIA

Ecopetrol is the leading oil and gas producer in Colombia, accounting for approximately 65% of the country's BOE reserves and 75% of its current BOE production. With 1.7 billion BOEs of net proved reserves as of year-end 2010 (72% liquids) and production of 716,400 BOE/day (gross before royalties) in the first nine months of 2011, Ecopetrol ranks as a mid-sized integrated oil company relative to its larger state oil company peers. In addition to its own production, Ecopetrol purchases and trades the royalty crude and natural gas that are paid in kind to the Agencia Nacional de Hidrocarburos (ANH), as well as a portion of third-party production in Colombia.

In the downstream, Ecopetrol owns all 335,000 barrels per day (bpd) of the country's crude refining capacity through the 250,000 bpd inland refinery at Barrancabermeja, and a smaller 80,000 bpd plant at Cartagena. The company produced approximately 296,000 bpd of refined product in 2010 and is the largest wholesale marketer in the Colombia, but does not engage in retail product marketing. Ecopetrol is also Colombia's largest petrochemical producer, with capacity of 500,000 tons annually, mainly in polypropylene. It also owns and operates directly or in joint ventures more than 8,400 kilometers of crude oil and refined product pipelines, including 100% or majority stakes in four of the largest crude pipelines, which connect field production to the refineries and to wholesale product and export terminals.

GROWING RESERVES AND PRODUCTION PROFILE

Ecopetrol derives its production from five main geographic regions, but most of its production comes from the Central and Northeast regions of Colombia. Following an extended period of underinvestment up until 2008, its production is showing rapid growth mainly in the Llanos Basin in central Colombia from the Castilla, Rubiales/Quifa, and Chichimene fields, all heavy crude fields. The Northeast is the principal source of light crude production from the Cravo Norte, Cusiana and Cupiagua fields, which have been a mainstay and are now in decline, as well as the source of virtually all of Ecopetrol's current natural gas production. Other significant crude production comes from the Mid-Magdalena with medium grade crude,

and the Catatumbo/Orinoquia regions, the latter in the eastern provinces along the border with Venezuela.

Ecopetrol Group's gross production increased 18.5% in the first nine months of 2011 to 716,400 BOE/day, and is expected to average 730,000 BOE/day for the year. More than 85% of its production is crude oil, with a rising share of heavy oil, which is about 48% of total crude production. The Castilla and Rubiales/Quifa fields (operated by partner Pacific Rubiales) contribute about 36% of total crude production and are expected to be the major drivers of production growth in the near-term.

With significant increases in exploration and development concentrated in heavy oil, Ecopetrol is showing an improving reserve profile and strong full cycle economics. The company's three-year average reserve replacement in 2010 was 168%, reflecting both upward revisions and discoveries, while three-year organic replacement (extensions and discoveries only) was lower at 68%. The upward revisions and discoveries have come primarily from the Rubiales, Chichimene, and other fields, including upward revisions in 2010 from Chuchupa and older Cusiana and Cupiagua fields. Despite a rising production level, its reserve life has increased to 8.4 years total and 5.8 years proved developed at June 30, 2011, from 8.3 years and 4.8 years, respectively in 2008. At the same time, proved undeveloped reserves have declined from 43% in 2008 to about 30% of total reserves in 2010.

Ecopetrol's upstream cost structure has increased, but higher oil prices and crude realizations tied to Brent are supporting stronger cash margins, and its unit costs are very competitive, with total full cycle costs of $27.07 in 2010 and up again in the first half of 2011 to $33.57/BOE. Its three-year all-sources F&D costs averaged $10.05/BOE in 2010, benefiting from large upward revisions on heavy oil reserves as well as discoveries, while one-year F&D costs increased to $9.83/BOE. Ecopetrol's unit production costs have declined in line with higher production, despite the impact of higher well maintenance and workovers, wastewater treatment costs, and Peso appreciation. As a result, Ecopetrol's leveraged full cycle ratio was a very strong 4.8X in 2010 and 5.3X in the first half of 2011. (Our cost structure analysis is based on a gas/oil conversion ratio of 6:1, with production reported net of royalties, whereas most of the company's reported information is based on gross production before royalties.)

CAPITAL RAMP UP FOR MEGA PROGRAM

Ecopetrol's capital spending has ramped up significantly since 2008 to fund its Mega plan, which is expected keep spending at elevated levels totaling $80 billion through 2020 to increase crude oil and gas production, support infrastructure expansion, and refining upgrades. The Mega plan sets an ambitious capital program estimated at $44 billion for 2011-2015 (averaging about $8.86 billion p.a.), and an additional $35.9 billion from 2016 to 2020.

Spending from 2011 to 2015 includes $34 billion in the upstream to raise production to 1 million BOE/day by 2015, with further expansion to 1.3 million BOE/day by 2020. In the midstream, spending on infrastructure in Colombia is expected to remain elevated as Ecopetrol and its partners expand pipeline takeaway and storage capacity, particularly to meet rising production from the Llanos Basin. The goal is to increase crude takeaway via pipelines and compression, and more than double current crude pipeline capacity to 2.2 million bpd in 2016. In the near term, the largest project is the $1.03 billion first phase of the Bicentenario pipeline with 230,000 bpd connecting the Llanos Basin to the port of Covenas.

In the downstream, the two refineries are smaller scale with relatively low conversion capabilities. Planned investment of $7.4 billion is slated to upgrade the Barrancabermeja refinery and to double throughput capacity at Cartagena from a current 80,000 bpd to 165,000 bpd by 2015, while increasing conversion to handle a heavier indigenous crude slate (from 20% currently to 60%) and produce clean fuels.

Ecopetrol's capital spending (excluding acquisitions) in the first nine months of 2011 increased 34% to $4.32 billion. Capital spending for 2012 is projected to be $8.47 billion (Ecopetrol S.A. plus its subsidiaries). About 65% of the budget will be directed to higher exploration and development spending in Colombia. Spending on infrastructure will also continue to elevated, consuming $2.02 billion in 2012, or

about 24% of the budget, for Phase 1 of the Bicentenario pipeline project and for smaller investments in other pipeline projects.

INCREASING LEVERAGE PROFILE

Ecopetrol's modest leverage position is a legacy of its status as a state company and the government's intention to strongly capitalize it post-IPO to support acquisitions and future growth. Despite higher capital spending, the company's leverage has benefited from strong oil prices and production growth, which have contributed to rising cash flows. The company generated free cash flow in the first nine moths of 2011 and should be able to largely fund 2011 capital spending internally.

Our view of Ecopetrol incorporates rising financial leverage over the next two to three years as spending for the Mega plan is expected to exceed internal cash flow. In addition, a high statutory dividend payout will compete with funds needed for reinvestment. Under the company's $70 WTI scenario and with an $8.47 billion capital budget, we believe Ecopetrol could need to draw down its cash and raise $3.5-$4 billion in 2012 to cover dividends and fund capital spending. With higher oil prices the amount could be less.

We do not expect rising leverage to affect its ratings given its relatively modest debt balances and strong liquidity. The company's leverage metrics are competitive, with adjusted Debt/Total Proved Reserves of $3.24/BOE and Debt/Proved Developed Reserves of $4.65/BOE and as of September 30, 2011. Debt/Average Daily Production has also declined as production has increased, at about $9,626/BOE. Ecopetrol also has access to equity and will realize the proceeds from any future share issues until state ownership falls to 80%, as was the case of with its August equity issuance of $1.25 billion.

In the longer term, a higher oil price environment ($80 WTI) should enable the company it to fund the Mega plan through 2020, with a plan to fund it about 75% from internal cash flow, 16% from debt issuance, and 9% via primary share issuance, which would eventually reduce the government's stake to 80%.

GOVERNMENT SUPPORT PROVIDES RATINGS UPLIFT

Ecopetrol's Baa2 global local currency issuer rating reflects ratings uplift based on Moody's joint default rating methodology for government related issuers (GRIs). In Ecopetrol's case, we assume a high level of government support, given its financial contribution to the government, strategic importance, and reputation risk. We also attribute moderate default correlation between the two entities, resulting in uplift in the local currency rating to Baa2.

The Baa2 foreign currency bond rating is one notch above the Colombia's foreign currency rating, which was raised to Baa3 in 2011. Ecopetrol's foreign currency debt is rated higher than the government's, reflecting our view that there is only moderate risk of a general debt moratorium and a lower probability that Ecopetrol would be subject to a payment moratorium, based on its status as a significant exporter and its strategic importance to the government. Ecopetrol's exports are rising in tandem with higher production, with about 59% of its crude oil sales volumes exported in the 2011, mainly to the US, Asian markets, and the Caribbean basin.

POLITICAL RISK CONCERNS

Colombia has witnessed a widespread decline in guerilla activity since the early 2000 period. However, Ecopetrol and the oil industry in general remain periodic targets of guerilla activity, including pipeline and compression station bombings and kidnappings. The problems are likely to increase as the industry moves exploration and development into new remote areas, particularly in areas such as the eastern provinces along the border of Venezuela. However, President Juan Manual Sanos is a former defense minister and is continuing with the hard line approach to insurgency implemented by former President Uribe. Efforts have included stepped-up protection of energy infrastructure such as the pipelines, as well

as social programs to gain the support of local populations. Other risks included labor disruptions, and access to new areas for future exploration and development, which will require soliciting the support and participation of indigenous peoples.

Liquidity

Ecopetrol has a solid liquidity position, including $3.49 billion of cash and short-term investments as of September 30, 2011, which could be drawn down in 2012 as a result of higher spending. In 2009, the company issued $1.5 billion of ten-year notes internationally for the first time, and could fund its capital needs in 2012 via the international bond markets, drawings under a $1 billion US Export Import Bank facility, or local Peso bonds. It also has a Pesos 2.2 Trillion ($1 billion) syndicated 7-year bank loan arranged with a group of 11 Colombian banks, which can be used to fund capital spending. The loan has a pledge of stock in certain assets, including the Cartagena refinery, the Ocensa Pipeline, and Propilco. The debt maturity profile is manageable, with $224 million due in 2012.

Rating Outlook

The outlook for the Baa2 foreign currency rating and the Baa2 GLCR is stable. While the BCA incorporates expectations of higher capital spending and debt increases, Ecopetrol's ability to stage and manage its future capital spending, dividends, and financial leverage will be key to maintaining its BCA and the stable outlook for its Baa2 GLCR.

What Could Change the Rating - Up

Despite higher spending and potential debt increases, Ecopetrol could be upgraded in the medium term as it continues to grow production and execute on the Mega plan while s maintaining moderate financial leverage.

What Could Change the Rating - Down

The BCA and ratings could be pressured if debt increases materially beyond expectations or if production growth significantly underperforms. The ratings could also be pressured if we viewed the government likelihood of support for Ecopetrol to be weaker.

Other Considerations

Comment on Grid Implied Rating: Using the Global Integrated Oil Rating Methodology, the implied rating of A2, before notching for government fiscal dependence, versus our BCA of 10 (Baa3). The methodology outcome benefits from solid scale positioning and strong financial metrics. The forward look is slightly weaker based on expected debt increases and the drawdown of cash resources as the company moves forward with its debt financing and the roll out of the Mega plan.

Rating Factors

Ecopetrol S.A.
600011139

Integrated Oil & Gas [1]	**LTM as of 09/30/2011**			[2]**Moody's 12-18 Month Forward View**
Factor 1: Reserves & Production Characteristics (25%)	Measure	Score		Score
a) Average Daily Production (Mboe/d)	570.2	A		A
b) Proved Reserves (Million boe)	1690.2	Baa		Baa
c) Total Proved Reserve Life (Yrs)	8.4	Baa		Ba

Factor 2: Re-Investment Risk (10%)			
a) 3-Year All-Sources Reserve Replacement	205%	Aaa	Aa
b) 3-Year All-Sources F&D Cost ($/boe)	$10.1	Aa	A
Factor 3: Operating & Capital Efficiency (10%)			
a) Return on Capital Employed (ROCE) (3 Year Avg)	37.9%	Aaa	Aaa
b) Leveraged Full-Cycle Ratio	5.0x	Aaa	Aa
Factor 4: Downstream Rating Factors (15%)			
a) Total Crude Distillation Capacity ('000 bpd)	335.0	Ba	Ba
b) # of Refineries with Capacity > 100 M bpd	1.0	B	B
c) Segment ROCE (3 Year Avg)	0.2%	Caa	Caa
Factor 5: Financial Metrics (40%)			
a) Retained Cash Flow / Net Debt (3 Year Avg)	276.0%	Aaa	Aa
b) EBIT / Interest Expense (3 Year Avg)	7.3x	Baa	Baa
c) Gross Debt / Total Proved Reserves	$3.2	Aaa	A
d) Gross Debt / Total Capital	18.1%	Aaa	Aaa
Rating:			
Indicated Rating from Grid Factors 1-5		A2	A3
Notching for Government Fiscal Dependence		2	2
Indicated Rating from Grid		Baa1	Baa2
Actual Baseline Assigned		10 (Baa3)	10 (Baa3)

Government-Related Issuer	Factor
a) Baseline Credit Assessment	**10 (Baa3)**
b) Government Local Currency Rating	**Baa3**
c) Default Dependence	**Moderate**
d) Support	**High**
Final Rating Outcome	**Baa2**

[1] All ratios are calculated using Moody's Standard Adjustments. Source: Moody's Financial Metrics [2] his represents Moody's forward view; not the view of the issuer; and unless noted in the text, does not incorporate significant acquisitions and divestitures

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