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Case Study From

NEW ERA IN OIL, GAS & POWER VALUE CREATION

From "*Apertura Petrolera*" To "*Apertura Gas Natural*"? The Case of Venezuela[1]

Venezuela possesses the Western Hemisphere's largest conventional proven oil reserves at 77.8 billion barrels and has proved natural gas reserves of 148 trillion cubic feet, the largest in Latin America and the seventh-largest in the world. Despite these abundant resources, economic performance of the country has been poor. Oil production declined steadily every year beginning in 1973 and by the early 1990's it was clear that national oil and gas company Petroleos de Venezuela S.A. (PdVSA) did not have sufficient capital to develop Venezuela's oil and gas reserve base. In response, PdVSA advocated the "apertura petrolera" or "oil opening," which was designed to attract foreign investment to help the country ramp up its oil production quickly. The "apertura petrolera" was implemented through the 1990's and has generally been considered a success from the perspective of increasing oil reserves and production.

In the 1998 presidential election, candidate Hugo Chávez was very opposed to PdVSA's "aperture" initiative believing that the relaxed fiscal regime benefited foreign companies at the expense of the Venezuelan state. Fiscal revenue from oil as a percentage of gross income from oil had dropped from a high of over 70% in 1989 to slightly less than 50% in 1998. Chávez' Bolivarian political movement also objected to the formulation of oil policy by PdVSA: they felt that the increased oil production generated by the "apertura" had contributed to the collapse of oil prices in 1998. Chávez won the presidency with 56% of the vote and the PdVSA-government relationship became highly confrontational. The conflict culminated in a 65-day oil industry strike that began in December 2002, which essentially shut down oil production, causing grave economic damage to an already weak economy. Chávez retaliated by firing 25% of PdVSA's workforce, restructuring the company and reasserting control of oil policy by the Ministry of Energy and Mines (MEM).

Despite his harsh opposition to the "apertura petrolera," Chávez has adopted and applied its vision to the natural gas sector. In the Chávez vision, development of Venezuela's non-associated natural gas resource will become the economic "locomotive" leading to the development of connected upstream and downstream industries where Venezuela has or could develop a comparative advantage. Further, with respect to opening the non-associated natural gas sector to foreign investment, the Chávez "apertura gas natural" goes much further than the more limited foreign oil sector participation permitted under the "apertura petrolera."

- *What were the root causes of the conflict between the Chávez government and PdVSA? Could confrontation have been avoided?*
- *Was the "apertura petrolera" an economic and technical success for Venezuela?*
- *How does the "apertura gas natural" differ from the "apertura petrolera"? Is it likely to achieve the goals embodied in Chávez' vision for the natural gas sector in Venezuela? How could it be improved?*

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[1] This case study was prepared using publicly available information.

Background

Since the 1920's, the Venezuelan economy has remained highly dependent on oil. In 2001, oil represented 28% of total export earnings, 50% of government revenues and 28% of gross domestic product (GDP). Governments have pursued highly expansionary policies when oil prices have been high and continually encountered fiscal and balance-of-payments difficulties when oil prices dropped. By the late 1990's, wages stood at less than 40% of their 1980 levels and real purchasing power declined by more than two-thirds.[2] Inflation ranged between 24% and 100% in the decade of the 1990's and averaged about 15% in 2000 and 2001 and between 25%-30% in 2002 and 2003.[3] GDP per capita did not grow at all between 1982 and 1992 and declined 1.6% p.a. between 1992 and 2002.[4] By 2002, 87% of the population lived below the poverty line. Unemployment has hovered around 15% since 1999. Between 1989 and 2002, the government has run a budget deficit for all but 3 years.

Venezuela has been a continuing democracy since 1958. Prior to the election of Chávez, two traditional parties dominated politics: Acción Democratica (AD) and Comité de Organización Electoral Independiente (COPEI). In December, 1998, former army lieutenant Hugo Chávez Frías won the presidency with overwhelming popular support, especially from Venezuela's poor, pledging to end corruption, revitalize the economy and reform the hydrocarbon sector. His "peaceful Bolivarian revolution" promised increased standards of living. However, his support has declined markedly over the last three years and the political climate has been violent and confrontational. Economic progress has been slight with continuing high levels of unemployment, crime and corruption. Since mid-2003, Chávez has been embroiled in a struggle with the highly diffused political opposition over a recall referendum which, if implemented, could possibly result in the end of his presidency prior to 2006. The recall referendum has not been implemented as yet and chances of its occurrence appear small.

Hydrocarbon Resource Base Overview[5]

Oil

Venezuela has the Western Hemisphere's largest conventional proven oil reserves at 77.8 billion barrels as of January 2003. Substantial extra-heavy crude oil and bitumen deposits, most of which are situated in the Orinoco Belt located in Central Venezuela, could add another 235 billion barrels. 72% of Venezuela's crude oil has an American Petroleum Institute gravity of less than 20 degrees, making Venezuela's crude oil "heavy" by international standards. This "heavy" crude requires more specialized and costly refining processes in order to obtain desirable end products such as gasoline and Jet-A fuel. As a result, the heavier crude oils trade at a discount to the "lighter" crude oils in the international markets. After producing more than 3.5 million barrels per day in the 1960s and early 1970s, oil production declined to 2 million barrels per day by the end of the 1980s. As a result of this declining production, a high priority was placed on the re-exploration and reactivation of marginal and inactive oil fields in the 1990's. Proven oil reserves in Venezuela's marginal fields are estimated at close to 2 billion barrels of light and

[2] Buxton, Julia, "Economic Policy and the Rise of Hugo Chávez," in Ellner, Steve and Daniel Hellinger, eds., Venezuelan Politics in the Chávez Era, Lynne Rienner Publishers, Boulder, Colorado, 2003.
[3] Voght, David, IPD Latin America, Presentation on Venezuela to IELE, University of Houston, January 30, 2004.
[4] World Bank Group, Venezuela Country Brief, August 26, 2003.
[5] Information sources for this section include: (a) Energy Information Administration, United States Department of Energy, Country Analysis Brief, Venezuela; (b) Fossil Energy International, United States Department of Energy, An Energy Overview of Venezuela, and (c) International Energy Agency, South American Gas, OECD/IEA, 2003.

medium crude oils. Following new investments, crude oil production peaked at 3.4 million barrels per day in 1998 but dropped to 2.9 million barrels per day in 2002.

In 2002, only 16% of Venezuela's crude oil was consumed domestically and 84% was exported. Of these exports, 2.46 million barrels per day, approximately 62% was exported to the United States. Venezuela has ranked consistently as one of the top four sources of U.S. oil imports, along with Canada, Mexico and Saudi Arabia. Venezuelan oil accounted for 13% of total U.S. oil imports in 2002.

Besides being a major supplier to the United States, Venezuela also provides significant quantities of oil under the San Jose Accord to eleven Central American and Caribbean nations under preferential terms. The San Jose Accord was originally implemented in 1980 and is renewed annually. In addition, Venezuela supplies Cuba with 53,000 barrels of oil per day on favorable financing terms under an agreement signed in 2000.

PdVSA operates domestic oil refineries with capacity of approximately 1.3 million barrels per day (about 45% of total oil production) with significant international holdings in Curacao, the United States and Europe. Approximately one-third of Venezuela's refined product exports are sold to the United States where they are distributed primarily by Citgo, a PdVSA subsidiary and one of the largest U.S. gasoline retailers. In the domestic market, petroleum and petroleum product prices are controlled at levels well below those in the global market. This subsidization of domestic prices is borne by PdVSA which pays royalties and taxes on production at international price levels which results in losses to the company on domestic sales.

Natural Gas

Venezuela has proved natural gas reserves of 148 trillion cubic feet (tcf), the largest in Latin America and the seventh-largest in the world. Of these reserves, 91% is "associated" gas (gas produced from a primarily oil reservoir) and 9% is "non-associated" gas (gas produced from a primarily gas reservoir). Venezuela has very large offshore non-associated gas deposits which are mostly undeveloped. PdVSA estimates that an investment in excess of $10 billion will be necessary to meet the government's gas development objectives, a significant portion of which will have to come from private investors.

2001 gas production was 1.1 tcf all of which was associated gas and consumed domestically. PdVSA is the largest producer and consumer of gas. 42% of Venezuela's gas production is consumed by PdVSA which reinjects it into oil fields to maintain reservoir pressures and boost declining production; 35% is used in the industrial sector, primarily petrochemicals, steel and iron. PdVSA affiliate Pequiven is the dominant petrochemical producer and is the largest industrial consumer of gas. 17.5% of gas production is used for electric generation and only 4.8% is consumed by residential and commercial customers primarily in and around Caracas and Maracaibo. There is no need for space heating in Venezuela. However, the government would like to increase gas use for air conditioning and refrigeration. Bottled liquid petroleum gas is used for cooking and water heating is electric. Domestic gas prices are controlled at levels substantially below those in most world markets.

With respect to gas transmission and distribution, Venezuela has 5,000 kilometers of pipelines with a total capacity of 72 mcm/d. There are two unconnected gas transmission systems in the central-east area around Caracas and the western system around Lake Maracaibo. Distribution focuses on industrial customers with limited service to residential and commercial customers. PdVSA Gas operates the entire pipeline transportation network and some 1,700 kilometers of distribution pipelines. PdVSA Gas supplies 100% of the industrial gas market and 47% of the commercial/residential market. The remainder of the commercial/residential market is served by three other distribution companies: Venezolana

Domestica de Gas, Venezolana Distribudora de Gas Natural and Fundación del Instituto Municipal de Energía (FIME). FIME is a non-profit entity serving 43% of the commercial/residential market and the remaining 10% is served by the other two private companies.

The MEM estimates that over $2 billion (primarily from private investors) will be required over the next decade to build 1,300 kilometers of new pipelines domestically and expand the distribution network. In addition, a cross-border pipeline between Venezuela and Colombia is in advanced planning stages with operation scheduled for 2005. At first, Colombia will supply gas to the Lake Maracaibo area for reinjection into oil fields until Venezuela's non-associated gas reserves can be developed. After a minimum of seven years, the flow will be reversed with Venezuela exporting gas to Colombia.

Industry Structure

Upon nationalization of the Venezuelan oil industry in 1975, the rights to all hydrocarbons were reserved to the Venezuelan state. The Ministry of Energy and Mines (MEM) was given responsibility for oil policy and oversight of the hydrocarbons sector; and state-owned company Petroleos de Venezuela S.A. (PdVSA) was established to develop the hydrocarbon resources on the state's behalf. PdVSA, the holding company, was responsible for the strategic planning, coordination and supervision that would lead to the achievement of the MEM's policies, and PdVSA's operating subsidiaries were charged with the execution of these plans and programs. The President of PdVSA and its Board of Directors are Presidential appointees. PdVSA would provide a level of fiscal revenue to the government in the form of royalties and taxes, which would be used for economic development and social welfare needs. Profits retained by PdVSA would be used to develop the oil and gas industry. The participation of private domestic capital in the hydrocarbons sector would be extremely limited by law. The participation of private foreign capital could be permitted with Congressional approval but was considered highly undesirable and expected to be unnecessary.

The 1990's: A Critical Juncture for the Oil Industry

By the early 1990's, it became apparent that oil and gas "rents" would not be sufficient to adequately fund the investment needs of both the state and the PdVSA. By the early 1990's, decades of economic mismanagement by various Venezuelan governments, coupled with boom-bust commodity price cycles, resulted in a situation in which PdVSA did not have sufficient capital to develop their country's oil and gas reserve base and the associated infrastructure, much less fund increasingly urgent economic development needs.

Prior to the 1990's, PdVSA was generally seen as the weaker and more passive party in its relationship with the government. PdVSA tended to avoid active engagement with the political sector; company management preferred to focus on the technical and operational issues of the oil industry. Educated by the international oil companies Shell, Exxon and Gulf, the PdVSA oil technocrats were uncomfortable with politicians. The company's ability to articulate its own strategic vision and to persuade politicians to adopt it was weak as evidenced by the intense political opposition to its "internationalization strategy" (the acquisition of refining capacity in Europe) in the early 1980s. In 1982, PdVSA was unable to prevent the government's appropriation of its $5.5 billion investment fund in an unsuccessful attempt to avoid devaluation of the bolivar. Further in 1982, the government forced PdVSA to acquire $1.8 billion in public debt bonds to bail out the bankrupt Venezuelan Workers' Bank. These were clear infringements of PdVSA's commercial autonomy.

By the mid-1980's, however, PdVSA had begun to "learn" as an organization from these setbacks. The company began to hold training seminars for oil managers on the political aspects of the industry. The 1989-1990 insolvency of the Venezuelan government which resulted in the implementation of International Monetary Fund and World Bank-mandated economic reforms coincided with a turning point in PdVSA's organizational evolution and a fundamental change in the dynamic of its relationship with the government.

PdVSA's organizational "learning" accelerated in the early 1990's when the company reorganized and raised the role and level of the strategic planning function. Luis Giusti was appointed the first coordinator of the new strategic planning function and he instituted a fundamental change in PdVSA's organizational culture: not only would PdVSA formulate the oil policy agenda according to its own strategic vision, it would deal effectively with the political sector in order to promote adoption of its policies. During Giusti's tenure in strategic planning and later as President of PdVSA from 1994-1998, regular and semi-institutionalized channels of communication were developed with key political segments. Once these channels of communication were open, PdVSA had a superior advantage with respect to information and expertise and this advantage was employed, together with newly acquired bargaining skills, to induce politicians to accept its policy preferences. The government continued to have veto power over PdVSA proposals, but formulation of policy initiatives shifted from the politicians to the company.

"Apertura Petrolera"

In the midst of a continuing severe economic crisis and new political crises (two frustrated coup attempts and the impeachment of President Pérez on corruption charges), PdVSA was one of the few entities capable of proposing clearly articulated policy options in the early 1990's. PdVSA needed investment capital and funding through either reduced taxes and royalties or increased borrowings were not viable options. The policy alternative advocated by PdVSA, the "*apertura petrolera*" or "oil opening," would have been unthinkable previously: private foreign investment would be required to develop Venezuela's hydrocarbon resources and new commercial frameworks would have to be established.

Aware of the deep-seated political skepticism and antagonism toward foreign investment in the oil sector, PdVSA approached the *apertura petrolera* with caution and skill. At first, foreign participation would not be permitted in Venezuela's "core" and highly valued light and medium crude oil sectors. Foreign participation would be restricted to the "fringes" of Venezuela's oil sector: "service contracts" for the reactivation of inactive or marginal oil fields, the development of heavy crude oil in the Orinoco Belt and non-associated natural gas in the form of the Cristóbal Colón LNG project. The fiscal regime would be relaxed (royalties reduced from 16.67% to 1% and income taxes reduced from 67% to 30%) in order to attract investment. PdVSA would maintain operational control of the projects although not necessarily a controlling equity interest.

PdVSA presented this limited foreign participation in the oil sector as part of a larger strategy to transform the oil industry from a source of "rent" to a productive economic "engine" of economic growth. By expanding the oil sector and increasing production, the industry would act as an economic "locomotive" generating demand for industrial goods and services. It is a testament to PdVSA's political maturation and lobbying skills that in 1992-1993 the Venezuelan Congress approved the series of "limited foreign participation" projects described above.

In the elections of 1993, the two dominant Venezuelan political parties, AD and COPEI, lost combined majority control of the legislature for the first time since 1973. The new President, Rafael Caldera, was sponsored by a new political party, Convergencia, and was elected with only 30% of the vote. With the discrediting of the two traditional political parties and the collapse of the Venezuelan banking system, Venezuela's economic and political crisis continued unabated. Still short of badly-needed investment capital, PdVSA pressed forward in 1994 with a proposal for a full "*apertura petrolera"* whereby foreign participation would no longer be limited to inactive or marginal crude oil fields, the upgrading of extra-heavy crude oil and LNG. "Core" medium and light crude oil fields would be opened to foreign investment subject to a profit-sharing arrangement with the government and royalties at 1%. The Venezuelan Congress approved the guidelines for the "full" *apertura petrolera* in 1995 and eight contracts were awarded pursuant to the first bidding round in 1996.

The projects implemented as a result of the *apertura petrolera* contributed to the reversal of the decline in Venezuela's oil production which had begun in 1973 and continued steadily downward every year until 1990.[6] Between 1989 and 1998, Venezuelan oil production increased 71% from 1.97 million barrels per day in 1989 to 3.378 million barrels per day in 1998.[7] PdVSA forecasts that approximately one-third of forecast oil production during the period 2004-2009 will come from *apertura petrolera* projects.[8]

PdVSA vs. Chávez: The Conflict

In 1998 former military officer and coup initiator Hugo Chávez entered the presidential race. PdVSA and the *apertura petrolera* were important campaign issues despite the technical successes and oil production increases of the latter. By 1998, the fiscal contribution of PdVSA to the government was at historically low levels: fiscal revenue from oil as a percentage of gross income from oil had dropped from a high of over 70% in 1989 to slightly less than 50% in 1998.[9] Chávez and his supporters attributed this decline to the *apertura petrolera* and its relaxed fiscal regime which, in their view, benefited foreign companies at the expense of the Venezuelan state. They objected to PdVSA's increased autonomy, particularly in the area of oil policy formulation, calling the company a "state within the state." Increased oil production, one of the aims of the *apertura petrolera*, was contradictory to OPEC policies. As a founding member of OPEC, Venezuela had a long history of attempting to maintain high oil prices by restraining production. The increased oil production of the *apertura petrolera*, according to Chávez, had contributed to the collapse of oil prices in 1998. When Chávez took office, the price for the basket of Venezuelan crude oil was at the historically low level of $7.35 per barrel. Finally, Chávez accused PdVSA of "black box" accounting practices for the purpose of artificially lowering profits in order to minimize tax payments to the state. According to observers at the time, the oil industry issues were so central to the presidential campaign that a political alliance including AD and COPEI considered Luis Giusti as a presidential candidate in opposition to Chávez.

Chávez won the election with 56% of the vote and conflict with the PdVSA organization created by Luis Giusti seemed inevitable. Chávez portrayed PdVSA as an almost rogue government agency whose purpose had evolved into saving the oil industry from the country; state control needed to be reestablished. In 1999 and 2000, Chávez appointed three different presidents of PdVSA culminating with the appointment of a military outsider. He appointed a new board of directors in violation of PdVSA's "meritocracy" process. The conflict between company and president became one of open confrontation when PdVSA joined political opposition members in two general strikes, the second of which would end in the coup d'état against Chávez in April 2002. The conflict continued until December 2002 when a majority of PdVSA employees joined the political opposition and shut down the

[6] BBVA Banco Provincial, El Reto de Venezuela: De Una Economía Petrolera Hacia Una Diversificada, Junio 2001.
[7] BBVA Banco Provincial, Op. Cit.
[8] Voght, David, Op. Cit.
[9] Mommer, Bernard, "Subversive Oil," in Ellner, Steve and Daniel Hellinger, eds., Op. Cit.

company operationally as well as administratively.[10] The three-day protest extended into a 65-day strike in which Venezuelan oil production dropped from close to three million barrels per day to less than 500,000 barrels per day in January 2003.

In 2001, oil accounted for 78% of total export earnings, 50% of government revenues and 28% of GDP so this prolonged production stoppage had devastating economic consequences for Venezuela. GDP would contract by more than 17% in the first three quarters of 2003 and foreign exchange controls would be implemented. The government implemented an emergency industry contingency plan, which included the participation of the military, and by mid-January 2003 slowly began to regain control of the oil sector. Oil production began to increase. PdVSA was restructured and 18,300 employees, close to 25% of its workforce, were fired. MEM took over the planning functions of the company and physically moved into the company's Caracas headquarters. Although oil production has increased, most industry participants think that it is still short of the pre-strike level of three million barrels per day. The company has been plagued by operating problems such as well blow-outs and refinery fires; some observers think that complete "operational normality" has not been restored to date.

The Chávez Reforms: *"Apertura Gas Natural?"*

Despite the violent confrontation with PdVSA and his harsh opposition to the *apertura petrolera,* Chávez has applied many of its principles to the non-associated natural gas sector. The Chávez government has established two completely different commercial frameworks for the oil sector and the non-associated natural gas sector basically reserving the oil sector to the state and opening up the non-associated natural gas sector to foreign investment. PdVSA will be the controlling participant in upstream oil exploration and production although foreign participation will be permitted on a minority basis. Contracts signed pursuant to the *apertura petrolera* will be honored but probably not renewed.

However, private foreign and domestic investors will be able to take up to a 100% participation in all segments of the non-associated natural gas chain including exploration and production, transmission, storage, distribution and marketing. For the first time since 1961 foreign companies can explore for and produce oil, as a minority partner with PdVSA, and non-associated natural gas as controlling entities without approval from the Venezuelan legislative body. Foreign participation will be administered by the MEM under a licensing process. The two hydrocarbon sectors are subject to completely different fiscal regimes as detailed in the table below.[11]

	Chávez Framework		**Apertura Petrolera**	
	Petroleum*	Natural Gas**	Conventional Oil & Gas	Heavy Oil & LNG
Royalty Rate				
Conventional Crude	30%	20%	1-16.67%	1%
Extra Heavy Crude	20%			
Bitumen	16.67%			
Income Tax Rate	50%	30%	67.7%	30%
Private			Could obtain controlling equity	

[10] Voght, David, "The Venezuelan Energy Sector," Presentation to the Institute of the Americas, May, 2003.
[11] Sources for the table include: (a) Vass, Uisdean R. and Adriana Lezcano, "The New Upstream Legal Regime for Natural Gas in Venezuela," 2000, www.macledoddixon.com, and (b) Mommer, Bernard, "The New Governance of Venezuelan Oil," Oxford Institute for Energy Studies, WPM 23, 1998.

Ownership (domestic & foreign)	Up to 49%	Up to 100%	subject to PdVSA operational control/veto
Required State Participation	51%	None	PdVSA operational control/veto

* includes associated gas
** non-associated gas

In the Chávez version of *apertura*, non-associated natural gas will become the economic "locomotive" which would foster the development of connected upstream and downstream industries where Venezuela has or could develop a comparative advantage. Such industries could include petrochemicals, fertilizers, LNG, steel, aluminum, cement and gas-fired electric generation. Neighboring Trinidad and Tobago has successfully implemented a similar strategy. The MEM estimates that natural gas could displace up to 27% of domestic demand for petroleum products by 2008 allowing those products to be sold in the more lucrative export markets. Finally, a robust natural gas sector would reduce Venezuela's economic dependence on oil revenues. With respect to opening the non-associated natural gas sector to foreign investment, the Chávez *apertura gas natural* goes much further than the more limited foreign oil sector participation permitted under the *apertura petrolera*.

Participation in Venezuela's gas sector could represent a significant investment opportunity for foreign companies but there are still issues to be addressed. Currently all of Venezuela's gas production is associated with oil production and the primary consumer is PdVSA for reinjection to maintain oil production and petrochemicals which is controlled by PdVSA subsidiary Pequiven. As a result, most gas production in the near term is likely to be controlled by PdVSA and future production of associated gas may be hindered by the more onerous fiscal regime as well as OPEC production quotas. The development of a domestic natural gas market supplied by new non-associated gas production could be seriously impaired by the controlled gas commodity prices ($.40-$1.25/mmbtu depending on location) which will remain in effect through 2007. After 2007, MEM officials have indicated that prices will continue to be controlled at the marginal cost of production. Foreign response to the first licensing round for non-associated gas areas with domestic markets in 2001 was modest: seven companies bid, five of which were Latin America-based companies, and only six of the eleven areas on offer received bids. Foreign interest in offshore non-associated gas areas such as Deltana and Paria with production destined for LNG export markets has been much more pronounced. With respect to gas infrastructure, a 15% internal rate of return will be allowed in the transmission, distribution and storage sectors. However, new infrastructure will not materialize without new non-associated gas supplies and that supply source is uncertain given the low controlled gas commodity price regime.

Another possible impediment to a robust and competitive domestic gas market in Venezuela is PdVSA's current controlling position in all segments of the natural gas chain. In addition to being the dominant gas producer, PdVSA Gas controls all current gas transmission and a significant percentage of gas distribution assets. Vertical integration in gas production, gas transmission and gas distribution is prohibited by the Chávez Gas Law and PdVSA Gas ultimately may have to divest a good portion, if not all, of these assets. (The Gas Law does permit "project viability" exceptions to the vertical integration prohibition in cases where gas producers in remote areas may have to provide transmission as well). The Chávez government's 1999 Constitution may have paved the way for the partial privatization of PdVSA: although the holding company PdVSA must remain in state hands, the privatization prohibition does not apply to operating subsidiaries. Given the increased social spending burdens imposed on PdVSA in 2004 such as the $600 million Agricultural Trust, eventual privatization of PdVSA Gas assets does not appear totally far-fetched.

Since the spring of 2003, PdVSA and MEM officials have undertaken a huge public relations offensive with the purpose of stimulating foreign investor interest in Venezuela, particularly the gas sector. There is no doubt that Venezuela's dual hydrocarbon regime *"constitutes a most interesting legal experiment not often seen in the world of oil and gas…few indeed are the systems where oil is reserved to the State and gas is open to the market, and where oil and gas are subject to radically different tax regimes."*[12] The ability of this new commercial framework to attract the private investment required to achieve the Chávez gas vision remains to be seen.

Acknowledgement

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[12] Vass and Lezcano, Op. Cit.