

Petropolitics in Latin America

A Review of Energy Policy and Regional Relations

Genaro Arriagada

Introduction

Worldwide, energy concerns are increasingly important. Energy-related issues dominate the headlines as well as debates in academia, government, business and multilateral organizations. Potential confrontations over oil and gas supplies and transportation networks have become geopolitical flashpoints.

Partly because of this new security dimension, the energy debate has moved from its traditional focus on technical and market research into the realm of politics. Terms like “petropolitics” and “oil diplomacy” have joined “proven reserves,” “exploration,” and “sweet crude” as part of the international vocabulary. While still important, technical and financial feasibility studies are taking a backseat to strategic considerations and power plays among states. As new reserves are discovered and old ones exhausted, the balance of power among states evolves. In some cases, energy security is a more important factor than military capability, diplomatic strategy, and even political stability.

This paper assesses the influence of petropolitics in Latin America. Given the active role of Venezuelan President Hugo Chávez on energy issues, it will focus on the potential for Venezuelan policy to alter regional power balances by using oil resources as an instrument of foreign policy.

Petropolitics encompasses two situations:

First, control over oil resources can create asymmetrical relationships among countries, encouraging domination. In this case, petroleum creates relationships of hegemony and subordination among states, as importing nations become dependent on producers. Such dependence can be further reinforced if supplies are sold at preferential prices or terms.

Dependence is less likely when the commodity is traded in open, transparent markets. Light crude oil, for example, is in high demand and its price is set by the market. Heavy crude oil, on the other hand, requires a complex and rare refining process, so it is traded in restricted markets at fixed prices.

In the second situation, oil wealth is used to influence relations with other states. Producer nations employ their resources to pressure governments or opposition groups. While this is considered to be part of petropolitics, a more apt description is that they are using their wealth, to shape international relations regardless of whether it comes from oil, diamonds, or manufacturing. In this case, the activity that generated these funds makes little difference.

Table of Contents

Introduction	1	IV. Southern Cone	13
I. Venezuela	3	Conclusion	20
II. Central America and the Caribbean	5	Bibliography	21
III. Andes	9		

Andean

Working
Paper

Foreword

In 2002, the Inter-American Dialogue launched a working paper series on Colombia. We sought to devote sustained and expert attention to one of the hemisphere's most urgent challenges, with a particular emphasis on how the country could move toward greater peace and security. The aim was to stimulate a broader public debate on the complex issues facing key decision makers involved in the Colombian conflict. We offered diagnoses and interpretations of the current situation, as well as policy prescriptions that could help the country resolve its multiple and deep-seated problems.

In 2005, the Dialogue expanded the focus of the series to encompass the broader Andean region, including Ecuador, Bolivia, Peru, Venezuela, as well as a continued focus on Colombia. The expanded scope reflects the natural evolution of a Dialogue initiative that began in June 2001 as the Colombia Working Group and is now known as the Andean Working Group. The body is comprised of a select and diverse group of analysts and policymakers from the Andean region, other Latin American countries, Europe, Canada, and the United States. The working group serves as a core of advisors, a "brain trust" for the Dialogue on the Andes, which is a central priority for the organization. The goal of the group is not necessarily to reach agreement and produce consensus documents. Rather, it is to encourage innovation and generate creative ideas and proposals that help shape thought and action on Andean challenges in constructive ways.

This paper, written by Genaro Arriagada, who directs Chile's *Diario Siete* and previously served as minister of the presidency and Chile's ambassador to the United States, focuses on the complex interplay between energy and politics in Latin America. Arriagada, who led the successful "No" campaign in the plebiscite that ended the rule of General Pinochet, explores the possibilities and limits of using energy resources as a political tool in different countries and sub-regions, with a particular emphasis on Venezuela. He takes into account a wide range of key variables in his comprehensive assessment of Latin America's evolving political landscape. Arriagada's perspective does not necessarily reflect the views of the Working Group or the Inter-American Dialogue.

Given the highly dynamic political situation throughout the Andean region, where events unfold with unusual velocity, it is nearly inevitable that some of what appears in these papers will be overtaken by new developments. However, while some of the details will seem dated, the central points and arguments remain relevant. We hope that a steady output of thoughtful interpretations of politics and relations in the Andean region will stimulate better insights on its challenges and more realistic and effective policies.

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(continued from page 1)

The converse example is that powerful nations often interfere in the affairs of oil-producing countries in order to ensure control of their resources. Petroleum rich countries are under constant scrutiny and pressure from the energy-hungry major powers. These asymmetrical relations are common because oil reserves are often found in poorly developed, vulnerable nations.

While these are separate situations, they will be reviewed together because they complement and support each other. This paper will focus primarily on the first category while pointing out the contrast with the second.

The energy situation in Venezuela and each of the subregions will be discussed below.

I. Venezuela

Petroleum has been a central element in Venezuelan foreign policy since it joined the Organization of Petroleum Exporting Countries (OPEC) in the early 1960s. Though petroleum has played a role in Venezuelan foreign policy for some time, the Chávez government has wielded its resource wealth to an unprecedented degree. It is difficult to find a similar case of a Latin American country employing its commodity wealth so openly in the international arena.

The future prospects for President Hugo Chávez's policy of using oil as a regional policy instrument depend on two factors:

First, the oil and gas supply must be so highly concentrated that a single country, such as Venezuela, becomes the dominant supplier to a host of nations producing little or no oil, making them dependent on their supplier. In the case of Latin America, such a scenario is unlikely since the region is energy-rich except for Central America and the Caribbean. It has 10 percent of the world's conventional

oil reserves while North America (excluding Mexico) has 2.5 percent, Africa 9.3 percent, Eastern Europe 8 percent, Asia 4 percent and Western Europe 1.6 percent. While gas is less abundant—Latin America has only 4 percent of proven world reserves—regional consumption is still well below that figure.

Second, even if clear market dominance exists, the prospects of oil being used as an instrument of power politics depend on the domestic circumstances. Successful petropolitics requires high prices, a robust domestic industry with significant expansion potential, and high levels of efficiency and investment. Absent these factors, it is unlikely that a country can sustain its reliance on commodity revenue as the centerpiece of its foreign policy. This section will address each of these topics.

It is important to note that many of the figures and statistics on the Venezuelan oil industry are estimates because PDVSA, the state-owned petroleum company, no longer provides detailed annual reports to the Securities and Exchange Commission. Moody's Investor Services, which no longer rates PDVSA debt, states that there is "no indication that PDVSA intends to provide audited financial statements, either publicly or privately."

Reserves: Venezuela has 80 billion barrels of conventional crude oil, 6.8 percent of the world's proven reserves. This is the sixth-largest total after Saudi Arabia, Iran, Iraq, Kuwait, and Abu Dhabi. At present, Venezuela's super-heavy crude oil cannot be processed in conventional refineries (meaning it is not truly a commodity, which has political implications that will be reviewed later). As refining technology improves and super-heavy crude oil can be efficiently refined, however, the figure will jump to 270 billion barrels, giving Venezuela the world's largest oil reserves, greater even than Saudi Arabia.

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Stagnant production: While Venezuela has vast reserves, it has not raised production levels. The UN Economic Commission for Latin America and the Caribbean (ECLAC) reports that Venezuela's gross domestic product (GDP) grew 17.9 percent in 2004, a rebound from the severe downturn of 2002 and 2003. Estimates for 2005 set growth at about 9.3 percent. However, ECLAC also adds that “...expected GDP growth will not come from oil production, which has yet to recover to pre-strike levels as a result of insufficient investment. These factors have led Venezuela to produce at levels below OPEC ceilings. Sector strength will depend exclusively on world price increases, as [...] capacity for expanded production remains extremely limited.”

Assessing how much production has fallen is difficult without reliable PDVSA figures. While the company says production has returned to 2000 and 2001 levels—about 3.1 million barrels per day (bpd)—independent reports estimate that it did not exceed 2.7 million bpd.

Investment: To maintain current output, Venezuela's oil industry requires considerable annual investment, especially in exploration and production. Evidence indicates that PDVSA investment falls significantly short of these minimum levels. PDVSA's plan for 2005–2010 calls for investing \$6.3 billion from public sources and an extra \$2.5 billion from private sources. While no official figures are available, 2005 estimates indicate that slightly over half the PDVSA target will be reached, less than \$3.5 billion. Private investment is also predicted to fall short of the target due to uncertainty about foreign property rights and investment policy. These estimates indicate that oil output will continue to slide or, at best, remain at current levels.

PDVSA investment falls short of the investment levels of other state-owned regional oil

companies. Estimates show that PEMEX, the state-owned Mexican petroleum company, invested more than twice as much as PDVSA in 2003. The Brazilian state-owned oil company, Petrobras, invested over 150 percent more. It recently announced annual investments of \$12 billion through the year 2010—more than three times as much as PDVSA.

Management: Most PDVSA engineers opposed Chávez during the unsuccessful strike of 2002. Many high-level technical workers were fired as a consequence, creating a skills deficit from which PDVSA has yet to recover. A portion of the PDVSA revenue stream is being used to fund the social programs known as missions. This diversion of revenue is one of the reasons PDVSA is unable to sustain adequate levels of investment. The Chávez government also imposed political control over the company, which now reports directly to the president. A November 2004 institutional reform intended to further increase presidential control of the company placed the management of PDVSA in the hands of the Energy Minister, who is appointed by the President.

The lack of high-level managerial skills at PDVSA is an increasingly critical issue as the government continues to give it new assignments. The Venezuelan government decided to transform 32 operating agreements with foreign partners into mixed-capital companies under majority PDVSA control. This forced the company to take over the management of all administrative, financial, operating and technical functions for all 32 ventures. There are several new burdens adding to PDVSA's diminished administrative capacity, including assisting the state-owned oil company of Bolivia (YPFB), supplying subsidized oil to Nicaraguan and Salvadoran municipalities under Sandinista and FMLN (Farabundo Martí Liberation Front, the Salvadoran leftist political party and former

guerilla organization) control, and conducting feasibility studies for the proposed Southern Gas Pipeline.

Natural gas development: While Venezuela has Latin America's largest natural gas reserves, there has been little interest in developing them until recently. Reserves are estimated at 4.2 trillion cubic meters (CBM), but production is only about 40 billion CBM. Most of this gas is combined with oil and cannot be used in anything other than oil production. Venezuela will most likely become a major gas-exporting country someday, but that moment is still far off. The best evidence of this is the July 2005 announcement of the La Guajira–Maracaibo Transguajiro Gas Pipeline, a facility which will pump Colombian natural gas into Venezuelan homes over its first seven years of operation. Since Venezuela does not have a proper domestic gas network, commercial and residential consumption remain low. Even the important petroleum-producing region of Zulia, for example, has no residential gas network at all. The Gaseous Hydrocarbons Act, the industry's legal framework, was not created until the late 1990s, while the National Gas Corporation (ENAGAS) was established as recently as 2000.

Heavy crude oil: Venezuela produces light, heavy, and super-heavy crude oil. Light crude oil is in greatest demand. Processing heavy crude oil is complex, requires higher investments and is less profitable. Super-heavy crude oil has a limited market because it is even more costly and difficult to pump. It is often processed into heavy crude and then transported to one of a few facilities capable of refining it further.

Heavy crude oil has limited value as a policy instrument. An exporting country can cut off light oil supplies to an importer and be certain that there will be a market elsewhere. But

the same is not true for super-heavy crude oil. The importer has leverage if it possesses one of the few refineries able to process this type of oil. Cutting off supplies carries the risk of finding no new buyers, causing the exporter as much or more damage as it sought to inflict. This, to a certain extent, is the current relationship between Venezuela and the United States. Venezuela ships heavy crude oil to the United States, a country that has a high number of specialized refineries. This makes it extremely difficult to use these products as an instrument of political pressure. In fact, the power balance may even favor the United States, since refineries capable of handling heavy, acidic crude oil are more scarce than the supply of such oil.

PDVSA is looking to partner with foreign state-owned or private oil companies to develop and produce heavy crude oil and build refineries at destination. This is one case where a potential conflict is turned into a positive-sum proposition, in which both parties win if the exchange continues and both stand to lose if it does not.

In sum, Chávez's oil diplomacy takes place within a very specific, adverse context marked by stagnant production, public and private underinvestment, poor management and politicization at PDVSA, and the refining challenges of super-heavy crude oil. Under these conditions, successful petropolitics will be possible only if prices remain high. A significant price drop could not be offset by increases in production, at least in the medium term. Nor could growth in other sectors of the economy be a substitute, since the Chávez regime has not used oil revenues to promote sustained growth elsewhere in the economy.

II. Central America and the Caribbean

Central America and the Caribbean are the areas of Latin America where oil and gas can

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be most influential as political instruments. The reason is clear: large oil producers are situated alongside more than 20 importing nations that possess no oil or gas whatsoever.

Exporters in this region range from major global producers such as Venezuela and Mexico to small but important regional players such as Trinidad and Tobago and Colombia. Mexico and Venezuela together hold the bulk of available Latin American reserves. Mexico produces 5 percent of the world oil supply from 1.4 percent of world reserves, while Venezuela produces 3.9 percent of the world supply from 6.8 percent of world reserves. Domestic Mexican consumption is high, so its oil exports amount to barely half of Venezuela's. From 1993 to 2003, oil accounted for 9.3 percent of overall Mexican exports.

The 22 importing nations are Haiti, the Dominican Republic, Cuba, Guatemala, Nicaragua, El Salvador, Honduras, Costa Rica, and Panama plus 13 of 14 Caribbean Community (CARICOM) members. Guatemala and Cuba produce some oil, but not enough to cover their consumption.

Dependence on oil and gas imports is higher in this region than anywhere else in the hemisphere, meaning the prospects for oil diplomacy are higher as well.

Many world and regional powers vie for influence in Central America and the Caribbean. The United States certainly plays an important role, but so do Mexico, Venezuela and Cuba. In addition, Brazil has been giving the region increased attention recently, including the two official visits by President Luiz Inácio (Lula) da Silva. The region is important for several reasons, including population, markets, and proximity to the United States (a matter of geopolitical interest). Voting power within the inter-American system is another important factor

given that CARICOM countries hold 14 of the 34 votes in the Organization of American States (OAS) General Assembly.

Any assessment of political initiatives in these countries must factor in the reaction of the regional and global powers that are involved in the area, including the following international agreements:

The San Jose Accord: For over a quarter century, Central America and the Caribbean have sought international assistance in relieving their oil shortages, which grow more severe every time world prices spike.

In August 1980, Venezuela and Mexico signed the San Jose Accord whereby each supplies 80,000 bpd of oil or refined products to Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Haiti, the Dominican Republic, Barbados, and Jamaica. They charge market prices but offer soft loans that cover from 20 to 25 percent of costs. While the agreement has been renewed on an annual basis, it has come under criticism from Chávez because of its exclusion of Cuba.

The Caracas Accord: In October 2000, Venezuelan criticism of the San Jose Accord led to the Caracas Accord between Venezuela and all San Jose Accord members except Jamaica. The accord also involves supplying 80,000 bpd of oil. The largest share—20,000 bpd—goes to the Dominican Republic and the smallest to Belize, with 600 bpd. The importers receive the oil at market prices but are offered financing terms of two percent annual interest for up to 17 years.

PetroCaribe: In June 2005 Venezuela created PetroCaribe, an agreement bringing together the nine Caribbean nations that are not involved in either of the previous accords in addition to existing members Belize, Jamaica and the Dominican Republic.

While oil is sold to member countries at unsubsidized market prices, buyers are provided with long-term financing linked to increases in world prices. In other words, the higher the price, the greater the percentage that is eligible for special terms. Supplies are for domestic consumption only and cannot be resold.

This accord has at least two factors that distinguish it. First, it creates a permanent organization with a seat in Caracas, including a Ministerial Council and an Executive Secretariat that Venezuela controls. Second, it links PetroCaribe to Chávez's alternative to the FTAA, the Bolivarian Alternative for Latin America (ALBA) through a fund called ALBA-Caribe. This program was set up with an initial \$50 million grant from Venezuela in order to finance social and economic development programs. The linkage has had mixed results. In July, 2006, the Fourth Summit of the Association of Caribbean states (ACS) removed all references to ALBA despite heavy pressure from Venezuela.

These accords certainly provide relief for Central American and Caribbean countries, and Venezuela's humanitarian efforts should not be ignored. Still, there are valid questions about the dependence such aid can create and about the use of aid as a political instrument. So far, Venezuela has not gained a clear political advantage through the program. When choosing a new president for the Inter-American Development Bank, for example, PetroCaribe recipient countries voted for the Colombian candidate, who Chávez had opposed.

The Venezuela-Cuba Accord: This accord strengthens ties more than any other agreement between two countries in the hemisphere. Though there are differences between Chávez's "socialism for the 21st Century" and Castro's "real socialism," the

agreement was founded largely on mutual denunciation of and intense rhetoric against the United States "imperialism," "globalization" and "neoliberalism."

The substantive basis of the accord is oil. While a lack of transparency makes it hard to identify the exact terms, several experts (Erikson, Corrales, Falcoff, Shifter and others) report that Venezuela sells 90,000 bpd to Cuba at about two-thirds of market price. Cuba requires 120,000 bpd, two-thirds of which it produces on its own. Therefore, of the 90,000 bpd delivered by Venezuela, 50,000 bpd are resold in world markets, giving Cuba the advantage of obtaining subsidized supplies for domestic use and reselling a portion. This form of aid resembles that given to Cuba by the USSR in the 1980s and 1990s, when subsidized Soviet oil allowed Castro to resell up to 60,000 bpd on the spot market and keep the difference.

In exchange for oil, Venezuela receives 30,000 to 50,000 skilled Cuban workers, mostly in the fields of medicine, education and athletics. Their assistance has been key to Chávez's social programs, which feature health care for the poor, community sports facilities, literacy programs, and campaigns to issue identification documents. The accord also likely includes Cuban assistance in reorganizing Chávez's intelligence and security services as well as reforming the military. The magnitude of the exchange is illustrated in an ECLAC report that the Cuban GDP grew 11.8 percent in 2005, driven largely by "the sale of professional services to the Bolivarian Republic of Venezuela."

While it is difficult to estimate because the terms of the agreement are not public and amounts depend on the constantly fluctuating price of oil, Venezuelan assistance to Cuba is certainly substantial. Using 2006 prices, the total value of oil subsidies, reselling profits,

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and financing amounts to at least \$1.4 billion in extra revenue for the Cuban government. While Cuban assistance in the implementation of high-impact aid programs has been crucial for Chávez, the monetary value of such assistance is unclear because professional services are hard to assess. Still, the exchange of oil for skilled workers is considered by both governments to be favorable.

These agreements have met with substantial reservations and criticism. Some question whether the cost can be sustained over time. Others criticize the wisdom of such a large revenue transfer for a country like Venezuela, which isn't a major world power and faces massive problems with poverty, unemployment and underinvestment in its own petroleum industry. In addition, Cuba was granted exclusive jurisdiction over its nationals working in Venezuela, which has added an ethical dimension to the “oil for workers” exchange. The accord has made Cuba greatly dependent on Venezuelan aid, to the extent that termination might plunge it into the same level of depression it endured following the collapse of the Soviet Union.

Municipal agreements in El Salvador and Nicaragua: Two Venezuelan agreements demonstrate how oil can directly influence foreign elections. An agreement with FMLN mayors in El Salvador requires PDVSA subsidiary PDVCaribe to deliver oil at reduced prices, with up to 40 percent of the price paid in agricultural goods. Venezuela made a similar agreement with Sandinista mayors that support Daniel Ortega, who has a close relationship with Chávez.

The Puebla–Panama Plan: In June 2001 the presidents of Mexico, Belize, Guatemala, Honduras, Nicaragua, El Salvador, Costa Rica and Panama announced the Puebla–Panama Plan (PPP), an initiative to increase integration among seven countries of Central America and nine states in southern Mexico.

Initially, the idea did not inspire enthusiasm in Mexico, which concentrated solely on improving international road networks. Yet, as Cuban–Venezuelan maneuvering in the subregion became more apparent, geopolitical considerations led Mexico to revise its involvement.

The current focus of the PPP is energy and oil. In mid-2005, it called for international lenders to build a \$340 million power grid for Central America. Plans include collaborating with Mexico and Colombia to develop oil and gas resources in both countries.

In November 2005, the presidents of Central America and Mexico agreed to build a \$6 billion refinery in Central America. (Mexico is constitutionally barred from allowing oil refineries built with private funds on its soil). The proposed facility will process between 350,000 and 400,000 bpd and 40 percent of the financing will come from Mexico, 20 percent from Central America, and 40 percent from private investors. If successful, the initiative will give Central America improved access to crude oil markets.

Driven by motivations similar to Mexico's, Colombia joined the PPP as an active observer. Potentially an important supplier of hydroelectric power, oil, gas and coal, Colombia can play an important role in the PPP.

Mexican energy reform: Energy policy in Central America and the Caribbean is closely intertwined with developments in Mexico, the region's second largest producer. PEMEX has a domestic monopoly on oil production, refining and distribution and is Mexico's single largest source of fiscal revenue. The efficiency of PEMEX is declining due to its falling reserves, inability to process heavy oil, comparative disadvantage in deep-water exploration and production, and high administrative costs. While PEMEX invests twice as much as PDVSA, it does not invest

enough to ensure sufficient increases in production. Although this gap has prompted calls to allow domestic or foreign private investment, it remains a difficult political issue. During the past presidential campaign, even pro-market candidate Felipe Calderón opposed ending the PEMEX oil monopoly. Nevertheless, as Mexico becomes a natural gas importer, de facto liberalization is taking place without a constitutional sanction. One notable example is the Multiple Services Contracts mechanism used by Mexico's Energy Regulation Commission to grant distribution and natural gas development licenses. While he has not questioned the state monopoly, Calderón has come out in favor of some modernization without outlining specific measures. These developments will certainly bear watching over the next few years.

III. Andes

The Andean region is characterized by two critical factors: its wealth of energy resources and its severe political, social, and ethnic crises.

The abundance of energy resources means oil diplomacy has less impact in the Andes than in any other region. The possibility of using oil and gas as political leverage is greater when relations among states are asymmetrical. This type of unbalanced relationship, which opens the door to dependence, does not exist within the Andean region because most countries are net energy exporters with substantial oil, gas, coal, and hydroelectric power reserves. The energy self-sufficiency of these countries means that integration is almost non-existent in the energy sector. Major bilateral agreements between Colombia and Venezuela are less than a year old, and while preliminary talks between Ecuador and Venezuela yielded an energy cooperation agreement in May 2006, no action has yet been taken.

The persistent instability in the Andes, however, creates perfect conditions for major and intermediate powers to jockey for regional control. They try to influence other countries by sowing instability and financing sympathetic political parties or candidates. This is not properly described as "oil diplomacy;" it is the exercise of the power of wealth, irrespective of the origin of that money.

Andean countries are especially vulnerable to this interference, primarily because they face severe governance problems as a result of deep-seated flaws within their political systems.

Colombia: As a net exporter, Colombia does not depend on Venezuela or any other country for energy. Colombia exports significant quantities of oil, has enough natural gas to supply western Venezuela for the next seven years, as well as high-grade coal reserves and an abundance of water resources. As mentioned above, Colombia is set to play a key role in energy integration efforts with Central American countries.

Nevertheless, the Colombian oil industry displays an alarming decline. Production dropped from 820,000 bpd in 1999 to 520,000 bpd in 2005, leading observers to believe that Colombia will lose its standing as an oil-exporting country by 2010. This is a critical issue for the country because oil sales from 1993 through 2003 accounted for over a quarter of overall exports.

The Uribe administration is trying to reverse the decline through pro-business policies that differ dramatically from those implemented by Venezuela, Bolivia, and, to some extent, Ecuador. Uribe's security policies are focused on bringing guerrilla groups under control; reducing abductions, sabotage and illicit levies from guerrilla and paramilitary groups; lowering the government share of taxes and royalties to 50 percent; authorizing gas exports; and decreasing the share of explora-

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“ Except for Venezuela, no other regional economy has as high a stake in oil as Ecuador. ”

tion contracts in the hands of Ecopetrol, the state-owned petroleum company, to 30 percent. Colombia has a reputation as a country that honors contracts and respects the rules of the game.

For Ecopetrol reform, it seems that Colombia has taken Petrobras during the 1980s as a model. Colombia transferred regulatory tasks to a new National Hydrocarbons Agency and announced in July of 2006 that it would privatize 20 percent of Ecopetrol. These measures are meant to bring about strong increases in exploration and production, as about 80 percent of Colombia has never been explored for oil. The principal regional partner in this effort is Petrobras, a leader in exploration and the fourth-largest producer in Colombia after Ecopetrol, British Gas, and Occidental.

In the energy context, Venezuela depends on Colombia, not vice versa. Certain key initiatives, notably the 330 km Transguajiro Gas Pipeline that is being built in order to pump Colombian gas to Venezuelan consumers beginning in 2007, benefit Chávez much more than Uribe. The project is of such high priority for the Chávez regime that it has agreed to shoulder construction costs, which illustrates the current state of the Venezuelan gas industry. Venezuela also needs to build a multipurpose pipeline through Colombia to the Pacific coast in order to serve key Asian clients such as China.

Politically, the fight against guerrilla groups has created some friction and occasional charges, on both sides, of illegal border crossings. Nevertheless, relations between Chávez and Uribe have improved in the past year, though support for Chávez's Bolivarian Revolution is marginal within Colombia.

Ecuador: Ecuador possesses 0.4 percent of world crude oil reserves, which is enormously significant for the Ecuadoran economy.

According to ECLAC, Ecuadoran oil sales account for over one-third of overall exports, an average of 36.4 percent from 1993 to 2003. Except for Venezuela, no other regional economy has such a high stake in oil. The country's single-largest concern is state-owned PetroEcuador, a company which has drawn some criticism in the past decade over its declining efficiency and output levels.

Like Chávez's Venezuela, though to a lesser degree, Ecuadoran policy is opposed to foreign investment. This is reflective of a country where the rules of the game shift constantly and the institutional framework is weak. For example, Ecuador had no Supreme Court for fifteen months in 2004 and 2005. The oil industry is in the grip of a series of conflicts, including a prolonged dispute over tax payments by private oil firms and controversial reforms that force oil companies to share windfall profits with the government. The most contentious oil issue in Ecuador has been the May 2006 cancellation of contracts with Occidental Petroleum following charges that it unlawfully sold a 40 percent oil stake in Amazonia to a Canadian company.

However, in yet another contradiction, in May 2006 the Ecuadoran Energy Minister announced two initiatives encouraging further foreign involvement in Ecuador's oil industry. In one, exploration rights for reserves estimated at more than 1 billion barrels would be awarded to foreign concerns, preferably state-owned. The other was an announcement that rights over Block 15—the area formerly controlled by Occidental—would be awarded to a state-owned foreign oil company, possibly ENAP of Chile, Petrobras or Ecopetrol.

Venezuela's relationship with Ecuador is even more complex than its relationship with Colombia. In 2005, when pipeline sabotage prevented Ecuador from making deliveries, Chávez loaned oil supplies that allowed

Ecuador to meet its commitments. A proposal to let PDVSA take over Block 15 fell through and was replaced by an agreement to provide Ecuador with refined products. Venezuela has excess refining capacity and has unsuccessfully offered to process Ecuadoran heavy oil.

Chávez has sought closer political ties with Ecuador, but the results are difficult to assess. In the months following the fall of Lucio Gutierrez, President Palacio named a cabinet that favored rapprochement with Chávez. Foreign Affairs Minister Antonio Parra and former Economy Minister Rafael Correa were vocal opponents of the Bush administration and IMF and World Bank policies. Venezuela responded by offering to buy Ecuadoran debt and lend it \$500 million—which was later reduced to \$200 million and ultimately never materialized. The presence of Parra and Correa in the cabinet was fleeting and the Chávez rapprochement policy vanished. Correa was endorsed by Chávez when he entered the presidential campaign in 2006 and quickly emerged as a frontrunner.

Peru: In 2005, Peru produced 78 percent of its domestic oil needs and imported 22 percent. Peru's overall energy situation improved significantly following the discovery of the Camisea gas fields, which went into production last year. With proven gas reserves nearly five times the size of its oil reserves, Peru is in the advantageous position of requiring small amounts of oil and supplying vast quantities of natural gas.

Peru has decided to export the Camisea output in liquid form and is building a \$3.2 billion liquefaction plant in partnership with Hunt Oil and Repsol-YPF. The potential markets include Mexico and the United States.

The "Energy Ring" initiative, proposed at a meeting of Mercosur presidents in June, 2005, is an intriguing energy integration

proposal in which Peru plays a key part. The intention is to link pipelines fed from Camisea to networks in northern Chile, Argentina, Paraguay and Uruguay, and ultimately link up with the grid in southern Brazil. The proposal has run into two obstacles. First, Peru asserts that Camisea reserves are only sufficient to meet domestic and liquefied natural gas (LNG) export needs. Second, without a review of its landlocked status, Bolivia is reluctant to cooperate in an initiative that benefits Chile.

Although Peru does not depend on Venezuela or any other country for its energy supply, Chávez did involve himself in Peru's internal affairs in 2006 by supporting Ollanta Humala's presidential candidacy. After he was ridiculed by Alan Garcia, Chávez exchanged harsh words with the current Peruvian president. The incident led to the withdrawal of both countries' ambassadors.

Bolivia: Crude oil production in 2005 failed to fully meet domestic demand, forcing Bolivia to import small amounts. Natural gas reserves, however, have increased tenfold since 1998, turning the country into a major market player.

The election of Evo Morales as president has redefined Bolivian attitudes toward two crucial issues: nationalization policy and export prices.

Nationalization of natural gas resources was hardly a surprise, as it was both a central point in Morales' electoral platform and a mandate of a 2004 referendum ordering the state to "regain complete and absolute ownership, possession and control" of these resources.

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“**Nationalizing Petrobras assets had a ripple effect extending well beyond the energy industry.**”

On May 1, 2006, Morales issued a decree giving foreign companies 180 days to sign new contracts ceding control to Bolivia. The decree also called for a redistribution of profits, securing 82 percent for Bolivia and 18 percent for foreign firms holding large gas fields. For smaller fields, profit distribution varied from 60 to 40 percent. Hardest hit were Spain's Repsol-YPF and Brazil's Petrobras.

Nationalizing Petrobras assets had a ripple effect extending well beyond the energy industry. It caused a rift between Morales and Lula, which is no small matter since Brazil buys 70 percent of Bolivian gas, is the single largest investor in both energy exploration and in the agricultural industry around Santa Cruz de la Sierra, and is its largest industrial goods supplier.

The Brazilian reaction was harsh. During the Mercosur meeting in Caracas, Lula refused to meet with Morales, claiming that gas talks were a matter for Petrobras, not the president. The Brazilian government went on record saying that its key strategic goal was to become independent of Bolivian supplies as soon as practicable. To prove it was serious, Brazil adopted four new measures. First, it called off expansion of the Bolivia-Brazil gas pipeline as a signal that it intends no further increases in gas purchases from Bolivia. Second, it announced construction of multiple large LNG plants to be supplied by Trinidad and Tobago, Nigeria, Angola or Indonesia. Third, it tripled investment in natural gas exploration and production. Fourth, it cancelled Petrobras' commitment to invest \$5 billion in Bolivia from 2007 through 2011. Despite their differences, however, Brazil and Bolivia complement each other and are likely to continue cooperating.

Chávez's support for Evo Morales's nationalization drive has strengthened cooperation between La Paz and Caracas on energy

matters. In economic terms, however, ending cooperation with Brazil is a high price to pay with little return. Bolivia's oil shortfall is minor and could be purchased from a range of providers, including Argentina and even Brazil. As holders of the region's largest gas reserves, Bolivia and Venezuela compete rather than complement each other. As energy importers, Brazil, Argentina, Uruguay and Chile would all be better energy partners. In addition, Petrobras would be a more valuable ally in developing the gas industry given its status as a world leader in the field and the problems with PDVSA noted above.

Relations between Chávez and Bolivia were formalized in an Energy Cooperation Agreement and in the Caracas Energy Cooperation Accord signed a day after Morales' inauguration. These agreements state that (i) Venezuela "is to supply up to 200,000 barrels a month or the energy equivalent;" (ii) the said supply will "involve a volume sufficient to meet domestic demand;" (iii) payment and financing terms will be favorable to Bolivia; (iv) payment in Bolivian goods and services will be accepted; (v) the eligible financing amount, as with PetroCaribe, is to increase as prices rises; (vi) PDVSA will assist in the restructuring and modernization of YPFB and will "enter into joint ventures in hydrocarbon exploration, production, refining, distribution, processing and industrialization;" and (vii) it "creates PDVSA Bolivia..."

These agreements are relatively minor. They involve small amounts of oil, only 6,600 bpd, which is an inconsequential number when compared to the 90,000 bpd supplied to Cuba. The financing effort is equally small, since it involves a monthly bill of about \$13 million. The potential for payment with Bolivian goods and services is not great. Venezuelan purchases from Bolivia in 2005 totaled \$160 million, of which only a frac-

tion may be bartered for oil. The managerial weakness of PDVSA makes it a poor choice to support YPFB.

During its nationalization effort, the Bolivian government proceeded to renegotiate contracts with Argentina and Brazil. Bolivia's position was understandable, given that both countries were paying well below market price for gas. But initiating a contract dispute at the same time as the nationalization announcement was poor timing, since it exacerbated existing tensions with Brazil and created new ones with Argentina, which together account for 100 percent of Bolivian gas sales.

Changes of the magnitude of the nationalization project are bound to affect exploration and production investment while price increases and contract uncertainty encourage current and potential buyers to turn elsewhere for energy. These issues, including tension over prices and energy diversification, will be discussed below in the section on the Southern Cone.

The Morales government is learning that issuing a nationalization decree is simple but actually taking control is a daunting task. Clearly, YPFB lacks the organization, human resources or funds to expand the country's gas industry. Bolivia's former Energy Minister, Andrés Soliz Rada, acknowledged as much by stating that nationalization will not take full effect until YPFB is reorganized and new sources of investment are identified.

Rather than energy, Chávez relies on political and ideological instruments to influence Bolivia. Their relationship is based on a cooperation program—much like that between the Castro and Chávez regimes—calling for Cuban and Venezuelan assistance in implementing social programs in the mold of Chávez's missions.

Chávez supported the Evo Morales campaign in 2005, and the day after his inauguration,

Venezuela and Bolivia signed an agreement to collaborate extensively on programs to promote education, health, and sports. The agreement also provided for thousands of scholarships for study in Cuba and Venezuela.

Elections to a Constituent Assembly in early July were tainted by with accusations of interference by Chávez, who was reported to have provided funding for the process. Whether the new Bolivian Constitution will resemble the 1999 Constitution of the Bolivarian Republic of Venezuela remains to be seen.

IV. Southern Cone

As noted, the energy situation varies throughout Latin America. In Central America and the Caribbean, the chances of using oil and gas as policy instruments are greater because the region has a few large energy producers sitting next to twenty countries that are almost all economically minor and lack any petroleum resources. In the Andean Region, the situation is the opposite. Most nations are energy producers capable of meeting their own demand and even maintaining a positive balance of trade in this area.

Matters in the Southern Cone, however, are quite different. While Brazil and Chile alone account for half of Latin America's overall demand for energy imports, each faces a very different situation. Chile produces only 4 percent of the oil it needs, Brazil produces 75 percent. About 70 percent of Brazil's imports come from outside the region (primarily Nigeria, Algeria, and countries in Asia). Chile supplies 70 percent of its oil needs from within the region but has a substantial domestic refining capacity. Although reserves are falling, Argentina is still able to meet its own oil and gas needs. Uruguay and Paraguay produce no oil or gas, but Paraguay has a sizable hydroelectric generating capacity and remains energy independent.

“The Morales government is learning that issuing a nationalization decree is simple but actually taking control is a daunting task.”

“ The greatest oil and gas industry growth within the past decade hasn’t come from large producers such as Venezuela or Mexico but from Brazil, a net importer. ”

Venezuela’s attempts to use wealth to gain political influence among Southern Cone nations appear unlikely to yield results given the political, economic and international importance of Brazil and Argentina. A relatively less important country such as Venezuela can hardly claim leadership or hegemony over these countries. Chile has an economy about the size of Venezuela’s, depending on the price of oil, but its economic stability, economic diversification, political development and international investment prestige makes it similarly resistant to interference from Caracas. The same can be said of Uruguay, which, while economically marginal, has one of the most sophisticated political systems in the continent.

This review of energy issues in the region will focus on Brazil’s efforts to become self-sufficient in oil and gas, Chile’s struggle for energy independence, gas price tensions, and the development of the Southern Gas Pipeline. Bolivia has a key role in the Southern Cone, as well. Its natural gas reserves are sufficient to serve the combined needs of Brazil, Argentina, Uruguay and Chile.

Brazil: With 0.9 percent of world oil reserves, Brazil is the largest importer in the region. These imports meet merely one-quarter of domestic needs, however. The remaining three-fourths come from domestic production. The country produces two-thirds of its natural gas needs and imports the rest from Bolivia. Brazil has South America’s largest proven reserves of coal—nearly double those of the second largest, Colombia. In addition, Brazil and the United States combined produce 70 percent of the world supply of ethanol fuel.

What is most remarkable about Brazil is not the energy weakness that forced it to account for 58 percent of all South American oil imports from 1993–2003. More important are the aggressive policies that are changing the geopolitics of energy in the region.

Indeed, the greatest oil and gas industry growth within the past decade hasn’t come from large producers such as Venezuela or Mexico but from Brazil, a net importer.

In the 1990s, Brazil stripped Petrobras of its regulatory role, which was turned over to the new national hydrocarbons agency. It also ended the state monopoly and opened the sector to private investment. Petrobras, in which the state has 30 percent ownership and 55 percent political rights, has shown itself to be extremely competitive and efficient. In certain fields, such as deep-water exploration, it is an acknowledged world leader. A recent report calls Petrobras the leading state-owned firm in the world. Since 2004, Petrobras has been buying exploration concessions in Equatorial Guinea, Nigeria and Libya. It bought Shell’s distribution assets in Colombia, Paraguay and Uruguay, signed a memorandum of understanding for acquisition of a US-based refinery, created a methanol subsidiary in Japan, bought offshore gas exploration concessions in Venezuela and Colombia, and acquired the Gaseba and Conecta natural gas distribution networks in Uruguay. It struck deep-water gas in the Gulf of Mexico, which went into production in 2004, and in 2005 obtained an additional 53 gas exploration concessions in the area.

Despite charges—dismissed by Congress—that Petrobras was being used for political gain by the Lula government, the company boasts high levels of efficiency and investment. It invested \$7.7 billion in 2004 alone and recently announced that planned investments over the next five years will average \$11 billion per year.

In 2006, Brazil made two major announcements that are dramatically changing the geopolitics of energy in the region:

First, Brazil announced that it has achieved oil self-sufficiency. In late April, Lula declared

that Brazil would cease to be a net oil importer as early as this year. Brazilian oil consumption is estimated to stand at 1.8 billion bpd. Oil production in 2005 stood at 1.7 billion bpd and is set to increase to 2 billion bpd in 2007. Among its extremely ambitious plans, Brazil has announced that it will be investing \$56 billion from 2005 through 2010 to ensure production of 3.4 billion bpd by 2011. While this goal appears lofty, no one doubts that Brazil will become oil self-sufficient within the next year.

Second, Brazil announced a dramatic increase in natural gas reserves following new discoveries in the Santos Basin. Petrobras called it the largest find in its history. As a result, the 2002 estimate of 70 billion CBM in reserves have been revised to 400 billion CBM.

In making up its oil shortfall, Brazil turned not to major oil exporters in Latin America but to Africa. Its leading suppliers are Nigeria and Algeria. Brazil sought to offset the trade by offering Nigerian and Algerian businesses sizable credit lines for the purchase of Brazilian manufactures.

While oil drove Brazil to Africa, natural gas drove it to a very close relationship with Bolivia. The largest investor in the Bolivian gas industry, Petrobras controls 43 percent of proven and estimated reserves and has invested \$1.5 billion since 1994. Brazil is the largest importer of Bolivian gas and the pipeline network between the two countries is the region's most extensive.

Given Morales' political affinity with President Lula, the complementary roles of both economies, and Brazil's status as Bolivia's largest source of foreign investment, a neutral policy analysis would have led Bolivia to expand its links to Brazil. Nevertheless, Morales has proceeded to nationalize Petrobras assets.

As noted, nationalization was not a surprise, but its abruptness was jarring given Bolivia's normally amicable relationship with Spain and Brazil. These countries were given no advance notice and the gas fields were occupied through military force.

Chávez's hand in the Bolivian nationalization process was hard to conceal and had regional consequences. Morales made the announcement on May 1st, immediately after meeting with Chávez and Castro in Cuba. Within 48 hours Chávez called a summit in Puerto Iguazú to review the issue. In attendance were Kirchner, Lula and Morales. The press reported that Chávez sent Venezuelan lawyers to advise Morales on nationalization issues and directed PDVSA to start advising YPFB. In addition, the contracts that the Morales government offered to foreign operators were nearly identical to those used by Chávez in Venezuela.

Twenty days after Bolivia announced the nationalization, Chávez paid a second visit to Bolivia to announce a \$1.5 billion energy investment program, without specifying any projects or a timeframe. While this will be a significant investment if it comes to fruition, it cannot replace the \$5 billion Petrobras investment that was brought to an abrupt end by nationalization.

Brazilian Foreign Minister Celso Amorim made accusations of Venezuelan intervention. The Lula government indefinitely cancelled five memoranda of understanding worth hundreds of millions of dollars in energy projects and suggested that Chávez postpone a planned visit to Brazil.

Still, some joint PDVSA–Petrobras projects remain in effect and should be watched closely. One involves exploration and production of super-heavy oil by Petrobras in the Orinoco Oil Belt. The construction of a

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“As a reaction to the severity of its oil and gas shortfall, Chile has enacted a strong energy diversification policy.”

\$2.5-billion heavy oil refinery in Pernambuco, Brazil is another important common project.

Chile: The Chilean energy situation is much more sensitive than Brazil's. Chile meets no more than 5 percent of its oil needs and only 20 percent of its natural gas needs. From 1993 to 2003, Chilean exports of crude oil and derivatives accounted for 0.7 percent of overall country exports while oil imports accounted for 10.3 percent of overall purchases. In this period, Chile accounted for 25 percent of all oil imports into Latin America, which is an extraordinary amount given the size of its economy.

As a reaction to the severity of its oil and gas shortfall, Chile has enacted a strong energy diversification policy.

In 1997 Argentina became Chile's largest—and only—natural gas supplier, shipping 77 percent of its gas exports to Chile. After the crisis of 2002, Argentina entered a vicious cycle whereby price controls made natural gas extremely cheap and had the contradictory effect of encouraging consumption while discouraging new investment. The Kirchner government was soon faced with a dilemma: either restrict domestic consumption or cut down exports to Chile. It chose the latter. In the ensuing controversy, Chile charged Argentina with failing to honor its contracts and Kirchner justified his decision as necessary to guarantee domestic supply. Regardless, what is clear is that Argentina will cease to be a net gas exporter within the next two years, and Chile will have to find a new supplier or a substitute for natural gas. Argentina's imports of Bolivian natural gas have already jumped from 5 to 7 million CBM per day in 2006.

However, the most sensitive situation Chile faces involves Bolivia. In the early years of this decade, several Bolivian governments toyed with the idea of shipping gas to mar-

kets in Mexico and the United States via a Chilean port. While the project made economic sense, it was unfeasible for political reasons. Beginning with the Carlos Mesa and Evo Morales governments, Bolivian energy policy has stuck to the premise that “not a molecule” of Bolivian gas will ever benefit Chile as long as its demand for sea access is not satisfied. As far as Chile is concerned, this policy has meant the end of the Bolivian gas supply. Recently, however, Bolivia has agreed to sell Argentina more gas, thus releasing Argentine supplies for export to Chile. In this “Victorian solution,” molecules of Bolivian gas help release molecules of Argentine gas, which are then used to supply Chile.

Peru has rejected a Chilean proposal to build a pipeline joining the Camisea gas fields with northern Chile. Peru declared that domestic consumption and its LNG export project leave no gas available for sale to Chile.

Chile's energy diversification policy includes promoting the construction of hydroelectric power stations in southern Chile and overhauling coal-fired plants, mostly in the north. Over the past year alone, legislation encouraging investment in power generation has led to 26 new projects worth some \$2.17 billion. In addition, Chile recently announced the discovery of natural gas in its southern regions. Observers remain skeptical about the magnitude of the find and further details are required for an accurate assessment of its impact. To ensure greater independence from Argentine and Bolivian supplies, ENAP, in partnership with British Gas, is constructing a regasification plant in central Chile that is slated to go online in late 2008 or early 2009. In mid-August, France's Suez Energy and Chile's Gas Atacama announced plans to build an LNG terminal feeding electricity to large mining concerns in northern Chile.

Chilean energy policy revolves around ENAP, a state-owned corporation with a positive

international reputation as a refiner and investor in downstream markets in Ecuador and Peru. ENAP is involved in oil production in Ecuador, has sold off its interests in Colombia, and is exploring investment opportunities in Venezuela.

Relations between Chávez and the Chilean government have been problematic. While they do not admit it publicly, most in the center-left Concertación coalition disapprove of the policies and style of the Bolivarian Revolution. Chávez, in turn, placed the former Lagos government squarely among his enemies. Speaking at Fuerte Tiuna, he said: “Two opposing axes are emerging [...] one goes through Caracas, Brasília, and Buenos Aires [...] the empire will try to weaken it [...] The other goes through Bogotá (Uribe), Quito (Lucio Gutierrez), Lima (Toledo), La Paz (Mesa), and Santiago de Chile (Lagos). That axis is controlled by the Pentagon ...” Of all governments in the Southern Cone, Chávez is most distant with Chile’s.

Paraguay and Uruguay: These countries produce no oil. Although it requires a basic oil supply, Paraguay uses significantly less energy than is available to it under the Itaipú and Yaciretá hydroelectric power accords with Brazil and Argentina. Uruguay, on the other hand, may well be the most energy-vulnerable country in South America.

The presidents of Bolivia, Uruguay and Paraguay, with support from Venezuela, announced the construction of a 6,000 km pipeline from Tarija, Bolivia to Montevideo, Uruguay through Puerto Casado in Paraguay. The project went relatively unnoticed despite its size and potential impact. The reported \$450 million cost seems, at first glance, to be an underestimation. Venezuela has announced its willingness to provide financing and in mid-2005 Venezuela started to ship 9,000 bpd to Paraguay.

PDVSA and Uruguay’s state-owned company ANCAP have announced a joint venture to pump heavy and super-heavy oil in the Orinoco Oil Belt, which would guarantee Uruguayan supplies for the next 25 years. This requires a \$200 million expansion of Uruguay’s La Teja refinery to process heavy oil, with financing to be provided by Venezuela. Uruguay would pay up to 67 percent of the price in kind and the remainder at preferential rates and terms.

Argentina: With 0.3 percent of world oil reserves, Argentina is a net exporter. Argentina’s crude oil sales from 1993 through 2003 accounted for 11.5 percent of overall country exports. The industry, however, is not keeping pace with internal demand and its balance of trade in energy has been falling as a result.

Argentine energy policy during the 1990s was based on three pillars. First, it pursued aggressive privatization, possibly the most aggressive ever seen in the region. Second, strong deregulation nearly removed the state from control of energy resources. Third, it rated concession contracts in Argentine pesos pegged to the U.S. dollar. The initial impact of these policies was to drive oil and gas development at rates of 4.5 percent and 5.5 percent, respectively. This apparent success story, however, concealed serious structural weaknesses. It was based on the depletion of known reserves and lacked a regulatory framework to require investment in exploration, production and transportation. As a result, the country’s long-term supply was severely compromised. The crisis of 2002 brought the currency board policy to an end and prompted a partial price freeze. This led gas companies to accuse the government of unilaterally changing the rules of the game.

All the evidence supports the existence of major oil and gas reserves, but the ongoing

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“**Growing domestic demand, the absence of new significant discoveries, and the lack of new investment in exploration and production will soon turn Argentina into a natural gas importer.**”

controversy has left Argentina without an energy policy. While it remains a net exporter, growing domestic demand, the absence of new significant discoveries, and the lack of new investment in exploration and production will soon turn Argentina into a natural gas importer. To Chile, Argentina's largest gas customer for a decade, the matter is of the utmost importance.

Among Southern Cone countries, Argentina is Chávez's closest partner. In August 2005, Venezuela sold Argentina four million barrels of fuel oil for \$340 million, payable in cash as well as goods and services, including ships, farm equipment, and elevators. As part of the deal, the shipyards *Buques y Astilleros de Venezuela* and *Astilleros Rio Santiago* will build two \$112 million oil tankers, with an option for two more. With these, Chávez proposes to launch the PetroAmericana oil tanker line. PDVSA and the state-owned Energía de Argentina (ENARSA) also joined forces to acquire or build a chain of over 100 gas stations.

In July of 2006, Venezuela reportedly bought \$245 million worth of Argentine sovereign bonds, bringing its total to nearly \$3 billion. These securities, which mature in 2012, constitute a favorable credit line for Argentina.

These accords have been met with suspicion both in Buenos Aires and Caracas. Critics allege that Venezuela charged 20 percent above market price for its petroleum. The Argentine bond purchases are said to have been tied to a lucrative speculative operation whereby bonds bought by the Venezuelan Finance Ministry were sold to local banks for resale in the New York Stock Exchange. Proceeds were then repatriated for sale in the informal currency market in Caracas.

Argentina remains concerned about its energy situation. The Kirchner government has expressed interest in developing ocean-based

gas resources and has asked both PDVSA and Petrobras for assistance. Given Brazilian superiority in this field, Petrobras is likely to land the contract.

Of particular interest is the announcement that Argentina intends to proceed with a \$3.5 billion nuclear energy program. This includes a new enriched uranium plant, the completion of the Atucha II plant (put off since 1994), and the upgrade of the existing Embalse facility. If completed, the plan would make Argentina the Latin American nuclear energy leader, with a total of four plants.

Gas prices: Natural gas price issues have created some tension among Southern Cone countries. Bolivia had been a supplier of cheap natural gas to both Brazil and Argentina, but in July of 2006, it announced it was raising its border price for Argentine customers from \$3.2 to \$5 per million BTUs—a 56 percent increase.

Talks between Bolivia and Brazil have been tense. Bolivia's Energy Minister Andrés Soliz Rada resigned in September after Petrobras threatened to discontinue negotiations. This tension may prove intractable as Brazil enters with the humiliation of having had its assets nationalized and Lula will not risk appearing to oblige the Evo Morales government.

Even if it doesn't receive a full supply, Chile was paying from \$2.8 to \$3.4 per million BTUs as an added benefit from Argentine price controls. These prices are soon to rise to about \$5 per million BTUs.

These are only border prices, and after factoring in domestic transportation and delivery costs, Bolivian gas ends up being very expensive, if not overpriced. In Argentina, Bolivian gas prices are about \$6 per million BTUs after transportation. As a result, substitute fuels are becoming more and more attractive.

The Orinoco Oil Belt: Light crude reserves are at historic lows and heavy oil abounds, but refineries are unwilling to process it due to the expense and difficulty involved. In fact, few facilities are capable of refining such oil. Since Venezuela has the world's largest heavy oil reserves, development ought to be a crucial component of its energy policy. This includes raising the quality and number of refineries as well as finding partners to purchase super-heavy oil or the technology to process it.

If Venezuela wants to become less dependent on exports to the United States, it must accept that its current dependence is based on refining capacity. Without United States refineries, Venezuelan heavy oil would have a negligible market.

Refining heavy oil requires large investments that PDVSA has yet to provide. Assistance programs to Cuba and Bolivia and the construction of mammoth pipelines siphon off funds that could be used for investment. In addition, tax increases and the requirement for PDVSA majority control of joint ventures are discouraging private investors. Cerro Negro, Hamaca, Petrozuata and Zinco, four heavy oil projects approved the last decade, are now considered high-risk propositions because of these government barriers, according to Fitch Ratings.

PDVSA is looking to partner with state-owned oil companies from the Southern Cone to explore, develop and refine heavy crude oil. The best option might be a partnership that begins with production in the Orinoco Oil Belt and combines refining facilities at the destination with similar refineries throughout all partner nations. Such an arrangement would promote participation in all process stages.

The fulfillment of these and other projects would encourage more symmetrical relations between Venezuela and its partners.

The Southern Gas Pipeline: Over the past year, President Chávez has been actively promoting a Southern Gas Pipeline. It would run from Venezuela, through Brazil, Uruguay, and Argentina and eventually to northern Chile, where it would connect to Bolivia and Peru. With a planned length of over 9,000 km, the pipeline would be an unparalleled feat of infrastructure engineering. Europe's longest such pipeline, which runs from the Caspian Sea to the Mediterranean, is less than 1,700 km and took a decade to build.

Should it ever be built, the Southern Gas Pipeline would be the most important energy integration project in the continent. As such, it generates enthusiasm in Hugo Chávez and other supporters that is normally reserved for initiatives of epic proportions. Nevertheless, obstacles to the project include environmental, technical, and economic considerations.

Environmentalists are sure to object to any policy that opens up the pristine Amazon jungle to development by the energy industry and others.

After 3,000 km of pipeline, liquefied natural gas with regasification plants at the destinations is preferable. Transportation costs at 9,000 km, it is argued, are so high as to require the supplier to sell at \$2 per million BTUs or less to ensure competitiveness with Bolivian natural gas and liquefied natural gas.

In addition, Southern Cone energy needs do not warrant an investment of this magnitude. The current natural gas shortfall in the region's largest net importers (Brazil and Chile) does not exceed 55 million CBM a day. Spending an estimated \$23 billion to serve a market with relatively minor needs makes no economic sense.

The most serious threat to project viability is Brazil's recent announcement that it intends to reach gas self-sufficiency. Argentina has

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“The serious political, social, and ethnic crises in the Andean region allow regional and world powers to interfere in the internal affairs of other states.”

launched a nuclear energy program that could drastically cut down on natural gas needs and it remains well-positioned to find new reserves. Bolivia has enough gas to supply the needs of Argentina, Brazil and Chile, so pumping Venezuelan gas into the region is a grave economic threat. Pumping gas from Puerto Ordaz makes no sense if Bolivia can feed São Paulo from Santa Cruz de la Sierra through a 2,200 km pipeline—7,000 km shorter than the Southern Gas Pipeline proposal.

Observers strongly doubt whether Venezuela alone can finance such an enormous project. As noted, the Venezuelan oil industry is already underfunded and burdened by Chávez's numerous and costly international projects.

Conclusion

Petropolitics denotes two distinct situations. One is the result of the exercise of hegemony and force that the control of petroleum resources entails. The other is the sometimes flagrant and arbitrary use of petroleum wealth to intervene in the affairs of other states, whether directly or through covert operations.

In Latin America, the possibilities of using petroleum for political influence are somewhat limited because it is an energy-rich area. Venezuela, Mexico, Colombia, Ecuador and Trinidad and Tobago are exporters while Argentina and Bolivia produce enough to satisfy their internal demand. The net petroleum importers are Peru, Brazil, Chile, Paraguay, Uruguay, and all the Central American and Caribbean countries except Trinidad and Tobago, as noted above.

Several factors hinder Venezuela's application of petropolitics, including the industry's stagnant production, underinvestment, lack of private investment, the polarization and mis-

management of PDVSA, and the prevalence of super-heavy crude. As a result of these adverse conditions, it can only sustain its use of petroleum as diplomatic leverage while the price of oil remains high.

Central America and the Caribbean are the areas where petroleum can play the greatest role as a political instrument because major oil producers are located alongside 22 importing countries.

At first glance, the Andean region appears to be the area where oil diplomacy would have the least impact. These countries export energy products throughout the world, and they have vast reserves of petroleum, natural gas, coal, and hydroelectric power. On the other hand, the serious political, social, and ethnic crises in the region allow regional and world powers to interfere in the internal affairs of other states. These countries, Chavez's Venezuela among them, support public and covert efforts to destabilize other governments or elect sympathetic political candidates.

The situation in the Southern Cone is more diverse. Venezuela has a limited capacity for petrodiploacy in this region due to the international political and economic importance of Brazil and Argentina. In spite of their smaller economies, Chile and Uruguay also seem immune to these operations given the strength of the political development. It is impossible to consider the region's energy problems without reference to Bolivia. The poorest country in the region has an overabundance of natural gas, which would allow it to supply Brazil, Argentina, Uruguay and Chile. Bolivia is, in a sense, the gas lung of the Southern Cone, which is creating and will create powerful tensions with its neighbors, especially Brazil and Chile.

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