Behind the Gas Pump
International Alliances: Mexico and Venezuela
Assumptions Going Forward

• For the foreseeable future, oil will remain critical to U.S. and global energy supply
• New fuels and fuel technologies will increase in importance
  – *Pace depends on cost and time*
  – *Oil infrastructure is dominant*
• Costs of energy security may outweigh environment
• **We need to get from here to there, peacefully**
Persian Gulf Imports Vary but Within a Market Share Range

As of January 10
Total U.S. supply 19-20 mmb/d
Total U.S. imports 9-9.5 mmb/d

Source: U.S. Energy Information Administration (U.S. EIA)
Where Does Our Oil Come From?

Source: BP Statistical Review of World Energy, 2002
International Alliances are Crucial to Our Supply Base

- U.S. is advantaged by three coastlines and geographic position
- Supply diversity has been an **overt strategy** in both commercial and policy terms
- We supply technical assistance and foreign aid to our critical suppliers
  - *But not always well, and other issues are raised*
- **We can only deal with our suppliers on sovereign terms**
Country Upstream Policies and Risk/Reserve Position
(An Inverse Relationship)

Government Policies

Favorable

Non-attainment area of high risk/reserve position and favorable policies.

Unfavorable

Worldwide risk capital "equilibrium"

Source: Michot Foss, et. al., 1999; government policies and commitment (to private participation) vary inversely with risk/reserve position.
World Oil Production

Source: BP Statistical Review of World Energy, 2002; includes NGLs
World Oil Producing Regions

World Oil Reserves

Billions of Barrels

- 1981
- 1991
- 2001

Europe
Asia Pacific
North & Central America
USA
Mexico
North America
Africa
Former Soviet Union
Venezuela
Middle East
OPEC
WORLD

Foreign Concessions: Comparison of Reserves

Billion barrels oil equivalent

IOC: ExxonMobil (21), BP (18), R/D Shell (16.8), ChevronTexaco (10), TotalFinaElf (8)

Source: Various public data, all estimated.
Together, Mexico and Venezuela Are About 25% of our Imports

Mexico’s total production: 3.5-3.7 mmb/d
Venezuela’s total production (pre-strike): 3-3.2 mmb/d (decline since 1997 peak of ~3.5 mmb/d)

Source: U.S. EIA and other
Features of Mexico’s Petroleum Regime

• Production and exports controlled by Petroleos Mexicanos (Pemex, since 1938)
  – Rights reserved to Pemex through Article 27 and regulatory law of Constitution

• Pemex is the major contributor to Mexico’s general treasury
  – ~40%, after declining post-NAFTA to ~30%

• Pemex is also the major generator of hard currency
  – Political control of Pemex is a fact of life, even in the current Fox Administration
Issues Faced by Mexico

• Hacienda prefers oil for the needed hard currency…
  – …but has not provided adequate returns for re-investment
• Mexico has pursued an expensive nitrogen injection project at Canterell…
  – …and sacrificed new E&P in prospective areas offshore
• The emphasis on oil places pressure on gas supply…
  – …so that Mexico imported roughly 800 bcf from the U.S. in 2002 and may spend scarce hard currency on LNG imports
• There is no resolution on how best to bring diversified private investment for E&P…
  – …though Pemex is pushing to experiment further with MSC
Mexico’s Prospects

• Lack of investment and lack of policy initiative will limit Mexico’s production growth
  – *Share of U.S. imports could drop by half*

• The bigger questions have to do with Mexico’s own energy needs for economic growth
  – *Without adequate GDP performance, a failed economy will contribute to larger problems*
Energy and Economic Growth: Mexico Case

Gross Domestic Product (U.S.$, billions)  Tons of Oil Equivalent (millions)

Population (millions)

1971-1991

Source: Luis Lopez, 1997
Features of Venezuela’s Petroleum Regime

• Petroleos de Venezuela, S.A. (PDVSA, since 1975) operates as the sovereign national oil company
  – Constitutional protections are weaker than for Mexico…
  – …but oil revenues are a much bigger share of Venezuela’s treasury (upwards of 80%)

• In line with a reformist government, PDVSA had made great progress with its commercial program
  – Subsidiaries provided competition
  – International companies were invited back to Venezuela through the “Apertura”
Example Upstream Terms: Venezuela Apertura

- June 1997 round ($2 billion):
  - PDVSA data package: $50,000 per site
  - Fee to enter bids: $100,000

- With operation, assume $100 million/year:
  - Profits Participation Tax 50%: $50 million
  - Royalties 16.7%: $16.7 million (Gas Law: 20%)
  - Petroleum tax 67.7% of net: $22.5 million (Gas Law: NA)
  - PDVSA takes 35% of net: $3.8 million
  - Final net to operator: $7 million

- Issues: country risk (potential elimination of binding arbitration in new constitution), Gas Law constraints on vertical integration (still unresolved)

Source: UH IELE based on industry sources.
Example Upstream Terms: Argentina, Colombia

- **Argentina** (current)

- **Colombia** (does not reflect new contract terms)

- With $100 million:
  - Royalty 12%
  - Corporate tax 30%
  - **Final net to operator: $62 million**

- With $100 million:
  - Royalty 20%
  - Corporate tax 30%
  - **Final net to operator: $56 million**
  - Ecopetrol can take a 50% carry (but reimburses costs for successful wells)
Issues Faced by Venezuela (Or, How to Wreck A Company)

• Following election of Hugo Chavez:
  – First wave of management exits from PDVSA
  – Attempt to restructure Apertura contracts (failed)
  – PDVSA re-org to re-centralize competitive subsidiary model
  – New fiscal conditions increased government take
  – Failed coup in 2002
  – Second wave of management exits
  – Current “white collar” led strike of oil workers
Prospects for Venezuela

• Like Mexico, lack of investment has limited production growth
  – *Already, Venezuela was over-estimating spare production capacity*
  – *Strike effects are 1-2 years to resume production in the 3 mmb/d range, 3-5 years to re-invest for growth*

• Venezuela economy hinges on oil revenue
  – *Issue is less energy for economic development than energy for export*
Limiting Factors for Both

- The Lat Am bust and disintegrating consensus on reforms
  - Elite, hierarchical social structures, weak institutions and lack of leadership are barriers to economic attainment
- Significant heavy oil production and the need to build markets for their exports
  - Roughly 50% of Mexico’s production, nearly all of Venezuela’s
- Neither country has risk/reserve position to justify restrictions on private investment
  - Geopolitical position also means limited “sound bites” and attention
Conclusions

• A goal of Hemispheric trade regime (FTAA) is energy independence
  – Substantial hurdles in meeting targets so long as constitutional barriers are maintained and political risk remains high

• Multiple dilemmas are posed in a region where U.S. policy is often compromised
  – Nor do U.S. and European approaches mesh well

• Latin American oil, a cornerstone of supply diversity strategy, may not be as reliable a source as we had hoped…
  – Unless they can accept private investment