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BY THE COMPTROLLER GENERAL

Report To The Congress

OF THE UNITED STATES

Prospects For A Stronger United States-Mexico Energy Relationship

Mexico currently has sufficient proven and probable reserves of oil and gas to sustain a production level high enough to make it a major world producer of these fuels within a decade.

The size of its reserves, and its production and export policy, have important implications for U.S.-Mexican relations and the world at large. Through increased imports of Mexican oil, the United States could reduce its dependency on OPEC oil. Similarly, Mexican oil and gas exports to other nations would augment world energy supplies.

Future production and export policy will depend upon a number of political, economic, and technical factors, particularly, domestic needs and the impact of oil revenues on the Mexican economy.



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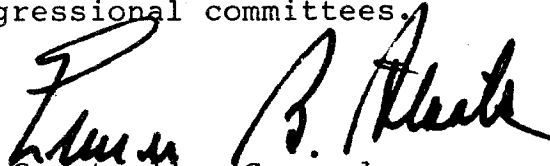
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To the President of the Senate and the
Speaker of the House of Representatives

This report focuses on the issues which have an impact on Mexico's petroleum production and export decisions and the effects of its policies on the United States and on its own economic development. It also addresses Mexico's position as a potential source of needed oil and gas to the United States and to the world at large; and it discusses the need for a proper United States relationship with Mexico on energy and other matters. This report should be useful to policy-makers in the executive and legislative branches in dealing with U.S-Mexico energy relations.

We are sending copies of this report to the Secretaries of Energy and State; the Director, Office of Management and Budget; and to interested congressional committees.


Comptroller General
of the United States



D I G E S T

Mexico's proven reserves of just over 50 bil-
lion barrels of oil equivalents and its
potential, ultimately recoverable reserves of
200 billion barrels of oil equivalents, have
important implications for a strong future
relationship with the United States and the
rest of the world. If the estimated recover-
able reserves are there, developed and made
available, U.S. dependency on Middle East oil
could be reduced; world supplies of oil and
gas could be augmented; and through trade and
investment, the United States could assist
Mexico in its economic growth and development.

Proven oil and gas reserves in Mexico have
risen rapidly since 1973--from about 5.4 bil-
lion barrels to 50.022 billion barrels of oil
equivalents. Potential reserves have risen even
more dramatically; some observers estimate that
Mexico's potential, ultimately recoverable, oil
and gas reserves are 200 billion barrels of oil
equivalents which, if confirmed, would place
the country in a position equal to Iran.

The size of Mexico's reserves, and its produc-
tion and export policy have important implica-
tions for U.S.-Mexico relations and the world
at large. As Mexico's largest trade partner
in energy and other commodities, the United
States could use increased imports of Mexican
oil and gas, if made available, to help reduce
its dependency on Middle East oil. Similarly,
Mexican oil and gas exports to other nations
hold the promise of augmenting world supplies
from non-Organization of Petroleum Exporting
Countries' sources. Moreover, the rate of
Mexico's oil and gas production, the volume
of its exports, and its ability to absorb
oil and gas revenues will have a pronounced
effect on its economic growth and development.
Through trade and investment, the United
States can assist in this development.

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STATUS OF U.S.-MEXICO ENERGY RELATIONS

Although the United States has been receiving increasing volumes of Mexican oil exports, actual energy cooperation between the two countries has not been extensive in the past beyond the establishment of a mixed U.S.-Mexico commission to discuss scientific and technical cooperation, the formation of an energy working group, and a geothermal agreement. In 1979, however, the executive branch began to expand energy cooperation with Mexico.

- The major obstacle in expanding energy cooperation had been the impasse between the United States and Mexico concerning mutually acceptable contract terms over possible sales of Mexican natural gas to the United States. Negotiations between the two countries, which started in early 1977, were stalled over differences regarding price, contract duration, and the U.S. process for approving gas imports. A natural gas agreement was finally reached between the two countries in September 1979, and Mexico began to export gas to the United States in January 1980. (See ch. 2.)
- The United States has been restricted in aiding Mexico develop its oil and gas resources because of Mexican sensitivities to U.S. involvement in its energy development. These sensitivities were further heightened when the gas negotiations broke down in 1977. This presented difficulties for U.S. policymakers in attempting to achieve long-term foreign policy goals toward Mexico. (See ch. 3.)
- Linkages of Mexico's oil and gas exports in return for concessions from the United States in trade and immigration has been suggested as an approach to improve U.S.-Mexico relations. U.S. officials believed, however, that the executive branch was not bureaucratically structured to discuss linkages of crucial U.S.-Mexico bilateral issues. These issues, such as energy and trade, involve a wide range of U.S. agencies which retain their own interests in deciding U.S.-Mexico policy and neither country is interested in linking issues or barter arrangements. (See ch. 3.)

- Special bilateral mechanisms established to deal with specific policy issues have not lived up to original expectations in coordinating a coherent U.S.-Mexico policy. Until 1979, they did not receive strong executive support in either country and progress on critical bilateral issues, such as energy, were limited. U.S. and Mexican officials have noted, however, that the Consultative Mechanism--the major bilateral mechanism between the two countries--has provided a forum to discuss issues of common interest. (See ch. 3.)

In April 1979, the President directed new measures be taken to improve coordination concerning all issues of U.S.-Mexican relations. They included

- appointing a U.S. Coordinator for Mexican Affairs,
- establishing a Senior Interagency Group on U.S. Policy Toward Mexico, and
- restructuring and strengthening the U.S.-Mexico Consultative Mechanism. (See ch. 3.)

MEXICO'S FUTURE PRODUCTION AND EXPORT POLICY IS UNCERTAIN

Plans call for Mexico to produce between 2.5 and 2.7 million barrels of oil a day in 1980. About half will be available for export with 60 percent or more expected to be sold to the United States. The United States received about 80 to 90 percent of Mexico's oil exports in 1979.

Mexican officials stated that gas production was expected to reach 4 billion cubic feet a day by the end of 1980; 300 million cubic feet a day are now being exported to the United States.

No official Mexican announcements regarding post-1980 production and export levels have yet been made, and U.S. estimates have varied widely. Mexico is also diversifying its

foreign oil markets. GAO noted that the country's future oil production and exports will depend upon a number of political, economic, and technical factors and is, therefore, uncertain.

U.S. experts generally agree that there are no serious technical constraints preventing Mexico from increasing production, but recent shortages of equipment and skilled personnel as well as complex geological conditions have slowed production. Moreover, the sharp upsurge in domestic demand for oil and natural gas, and concerns over the effect of increased oil revenues on the stability of Mexico's economy and political system may be factors that it will have to consider in future oil and gas production and export policy. (See ch. 5.)

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GAO discussed the contents of this report with the Departments of Energy, State, and Commerce and incorporated their technical clarification and updated information where appropriate.

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APPENDIX

I

Memorandum from the President of the
United States on the coordination
of United States policy toward Mexico

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ABBREVIATIONS

b/d	barrels a day
Btu	British thermal unit
cf/d	cubic feet a day
DOE	Department of Energy
GAO	General Accounting Office
GOM	Government of Mexico
mcf	thousand cubic feet
OPEC	Organization of Petroleum Exporting Countries
PEMEX	Petroleos Mexicanos
USG	U.S. Government



CHAPTER 1

INTRODUCTION

BACKGROUND

Six years after the oil embargo of 1973-74, the United States continues to rely heavily on imported oil to satisfy its energy needs. In 1978, the United States alone accounted for over 40 percent of the free industrial world's annual oil consumption and is by far the world's largest oil importer and the only major industrial country in the free world whose oil imports in the late 1970s were substantially above 1973 levels. In 1973, the United States imported an average of 6.3 million barrels a day (b/d) or 36 percent of its oil requirements. During 1977, the level of imports averaged 8.8 million b/d, or close to 50 percent of overall U.S. oil demand. U.S. requirements during this period, however, have not increased significantly. After the Iranian crisis, the level of imports dropped to a low of 7.7 million b/d. At the June 1979 economic summit meeting in Tokyo, the Carter administration pledged to hold oil imports at 8.5 million b/d through 1985. In July, the President set a U.S. oil import ceiling for 1979 of 8.2 million b/d.

Department of Energy (DOE) ^{1/} statistics show that member nations of Organization of Petroleum Exporting Countries (OPEC) provide most of the oil imported by the United States (see table 1). This high level of dependency on imported oil has contributed to record trade deficits, higher inflation rates, and increased U.S. vulnerability to supply disruptions. For example, U.S. foreign payments for energy imports have increased substantially since 1972 from less than \$5 billion to about \$42 billion in 1978. According to the Department of Commerce, payments reached about \$60 billion in 1979. It has been estimated that it will cost the United States at least 2 percent in increased inflation and at least a 2-percent decrease in the growth of the economy in 1980. Moreover, like the 1973-74 oil embargo, the continuing Iranian situation highlights U.S. vulnerability to disruption in overseas oil supplies and U.S. dependency on OPEC oil.

^{1/}Formerly the Federal Energy Administration. DOE was established on October 1, 1977. All functions formerly performed by the Federal Energy Administration were transferred to and vested in the DOE. For purposes of simplification, DOE will be used in the report.

TABLE 1

U.S. Crude Oil Imports by Country of Origin
January-July 1979

	<u>Thousands of barrels</u>	<u>Percent</u>
Algeria	128,521	9.53
Ecuador	6,696	0.50
Gabon	8,644	0.64
Indonesia	76,028	5.64
Iran	36,161	2.68
Iraq	19,832	1.47
Kuwait	482	0.04
Libya	140,676	10.43
Nigeria	222,220	16.47
Qatar	6,608	0.49
Saudi Arabia	295,354	21.89
United Arab Emirates	62,398	4.63
Venezuela	<u>56,380</u>	<u>4.18</u>
 Total OPEC	 1,060,000	 78.59
Angola	8,320	0.62
Brunei	2,295	0.17
Cameroon	2,802	0.21
Canada	58,596	4.34
China	2,346	0.17
Congo (Brazzaville)	909	0.07
Egypt	7,069	0.52
Ghana	204	0.02
Liberia	708	0.05
Malaysia	11,014	0.82
Mexico	87,033	6.45
Netherlands	2,021	0.15
Norway	12,184	0.90
Oman	8,358	0.62
Peru	8,789	0.65
Syria	1,449	0.11
Trinidad	24,887	1.84
Tunisia	3,310	0.25
United Kingdom	45,915	3.40
Zaire	<u>751</u>	<u>0.05</u>
 Total non-OPEC	 288,960	 21.41
 GRAND TOTAL	 <u>1,348,960</u>	 <u>100.00</u>

Despite its current dependency, the United States may have an opportunity to reduce its reliance on OPEC oil. Mexico has discovered significant oil and gas reserves and has launched an extensive program to increase oil and gas production. Traditionally, the United States has received between 80 and 90 percent of Mexico's oil exports. Mexico is, however, expanding its foreign oil markets. There was also an aborted attempt during the fall of 1977 to market in the United States 2 billion cubic feet a day (cf/d) of natural gas by 1982. In September 1979, the two countries agreed to terms under which the United States will buy 300 million cf/d of natural gas from Mexico. In December 1979, U.S. regulatory agencies approved a contract which gave U.S. companies authority to import that amount into the United States.

The marked increase in Mexico's oil and gas reserves has been one of the most important developments in the world energy situation in the last few years. As late as 1974, Mexico was still importing foreign oil to meet its own domestic needs. By the end of 1976, the public was receiving increasing indications that Mexico was having great success in confirming oil and gas reserves. The new Mexican administration, headed by President Jose Lopez Portillo, announced in December 1976 that Mexico's hydrocarbon reserve figures had increased from 6.3 billion barrels to 11.2 billion barrels. 1/ This official estimate was subsequently revised upwards several times, and on December 31, 1978, Mexico's Petroleos Mexicanos (PEMEX) national oil company Director General, Jorge Diaz Serrano, announced that Mexico's proven reserves had risen to 40.194 billion barrels, probable reserves to 44.6 billion barrels, and potential reserves to 200 billion barrels. 2/ In September 1979, President

1/Hydrocarbons are any organic compounds made up entirely of carbon and hydrogen. All fossil fuels, including crude oil and natural gas, are hydrocarbons.

2/According to U.S. officials, PEMEX estimates of Mexican proven reserves include drilled and undrilled reserves and those hydrocarbons recovered by secondary methods. (Secondary recovery methods are those techniques used to force oil out of reservoirs through water or gas injection.) Probable reserves are additional amounts of recoverable hydrocarbons which are estimated for the fields already discovered, when considering their horizontal and vertical extent according to geological and geophysical surveys. The potential reserves are the projected amounts of recoverable hydrocarbons and are based on the regional geology and projections from past exploration and development efforts. Potential reserves also include amounts already produced.

Portillo announced proven reserves at 45.8 billion barrels, probable reserves at 45 billion barrels, and potential reserves at 200 billion barrels. In March 1980, PEMEX announced that Mexico's proven reserves had increased to 50.022 billion barrels.

Mexican officials believe the potential for further growth of Mexico's oil and gas reserves is great, having estimated that 80 percent of Mexico is geologically capable of producing oil, and only 10 percent explored and developed. In 1976, President Lopez Portillo launched a 6-year oil and gas development program. The program's total cost for new investments has been estimated at over \$16 billion with varying amounts earmarked for exploration, oil production, gas production, and refinery and petrochemical projects. Details of the 6-year program and the size and location of Mexico's hydrocarbon reserve base are presented in chapter 4.

Regardless of Mexico's ultimate hydrocarbon reserve base, however, the fact remains that Mexico already has sufficient proven and probable reserves to become a major world oil and gas producer and exporter in the future. Mexico's oil production has already risen from an average of 653,000 b/d in 1974 to an average daily production level in 1979 of approximately 1.65 million b/d. Mexico's oil exports were expected to reach a daily average of about 600,000 b/d in 1979. In March 1980, it was announced that Mexico was producing about 2.07 million b/d.

Under the 6-year oil and gas development program announced in 1976, oil production was expected to increase from 908,000 b/d to 2.242 million b/d and gas production was expected to increase from 2.1 billion cf/d to 4 billion cf/d by 1982. Mexican officials announced in 1978, however, that Mexico will achieve these production rates in 1980. In March 1980, President Portillo announced that Mexico intends to produce between 2.5 and 2.7 million barrels of oil per day by the end of 1980. As of March 1980, total gas production reached 3.5 billion cf/d. Production goals for oil and gas between 1980 and 1982 have not been officially announced.

Estimates of Mexico's future production and export capabilities have varied widely. The Government of Mexico (GOM), however, has been cautious in establishing future production and export goals. Mexico's production and export policy will be mainly influenced by concerns over the impact of oil revenues on Mexico's economic development and domestic needs. In this regard, Mexico has established an economic plan to use revenues from oil and gas production in the industrial sectors of the economy. The GOM is also developing an overall

economic plan to use oil and gas revenues in other sectors of the economy. Mexico's efforts to expand its foreign oil markets and whether this will become a determining factor in future production and export policy is discussed in chapter 5.

PURPOSE AND SCOPE OF REVIEW

We undertook this study of U.S. energy relations with Mexico to look into the following matters:

- Mexico's oil and gas potential.
- How U.S. policymakers viewed Mexico's hydrocarbon potential.
- Mexico's oil and gas exports to the United States.
- Whether Mexico has the necessary technology, capital, and incentive to significantly increase oil and gas production.
- Whether the United States will continue to be the principal foreign market, capital supplier, and exporter of manufactured goods for Mexico's oil and gas industry.
- The status and prospects for energy relations between the United States and Mexico.
- The impact that the development of Mexico's petroleum reserves will have on its long-term development process.

We interviewed and obtained the comments of key officials in the United States Government (USG), American industry, banks, and research and academic institutions. During this review, however, the State Department and the U.S. Ambassador in Mexico refused our requests to talk directly to the GOM and nongovernment Mexican officials. Sensitivities created by negotiations between the two governments regarding a proposed natural gas contract were cited as the reason for their refusal. We have, however, to the extent possible, obtained Mexican attitudes and positions on the issues addressed from other knowledgeable sources, such as the Mexican Ambassador to the United States and his staff, and official PEMEX publications. Information developed through research and interviews with U.S. officials, both in the United States and in Mexico, also added to our understanding of U.S.-Mexican bilateral issues.

We discussed the contents of this report with the Departments of Energy, State, and Commerce and incorporated their technical clarification and updated information where appropriate.

CHAPTER 2

ENERGY RELATIONS BETWEEN THE UNITED STATES

AND MEXICO

The historical association of the United States, not only with Mexico's oil development during the early 20th century, but in other areas as well, including trade, immigration, investment, and military and political confrontation, have combined to create grievances between the two countries. The Mexicans are extremely sensitive about the U.S. presence in their economic and political lives. However, because the United States is the world's leading consumer of energy and Mexico's largest trading partner, U.S.-Mexican energy relations are extremely important to both countries.

OIL AND GAS TRADE BETWEEN THE UNITED STATES AND MEXICO

There has been a long history of oil and gas trade between the United States and Mexico. The United States has offered a ready market for Mexican oil and has been receiving increasing amounts of Mexican oil as Mexico's exportable surplus increases. According to Department of Commerce statistics, since 1970, the dollar value of U.S. imports of petroleum, petroleum products, and natural and manufactured gas from Mexico has increased from about \$61 million to over \$1.5 billion in 1978. For the period of January to November 1979, U.S. imports reached over \$2.6 billion.

The United States also supplies Mexico with energy resources. The dollar value of U.S. exports of coal, coke, petroleum, petroleum products, and natural and manufactured gas to Mexico rose from approximately \$67 million in 1970 to \$178 million in 1978. U.S. exports of the same products to Mexico reached \$194 million for the period of January to November 1979. The United States also supplies one-third of Mexico's bottled propane gas.

U.S. POLICYMAKERS' AWARENESS OF MEXICO'S RESERVE POTENTIAL

One congressional concern has been the manner in which USG officials have viewed Mexico's oil and gas potential and if U.S. policymakers were adequately assessing the policy implications of significant oil and gas reserves in Mexico. The first public indication of Mexico's oil and gas potential came in 1972 when PEMEX disclosed the discovery of promising

oil and gas fields in the Mexican States of Chiapas and Tabasco. In 1974, it was reported by a petroleum industry trade magazine that the discovery of oil in the Mexican States of Tabasco and Chiapas might be equal to the Persian Gulf. American access to these discoveries was one of the issues discussed during a meeting between Presidents Ford and Echeverria ^{1/} in October 1974. At that time, the President of Mexico did not publicly announce the size of Mexico's reserves, but stated that Mexico was producing oil at a rate of 640,000 b/d.

We found that the USG knew of Mexico's potential energy reserve level at a very early stage. PEMEX started finding significant reserves in 1974, but did not publicly announce the level of reserves until after President Lopez Portillo took office in December 1976. At that time, PEMEX announced proven reserves of 11 billion barrels of oil and gas equivalent. In 1976, USG sources believed that Mexico's probable hydrocarbon reserves were around 20 billion barrels and could be as high as 60 billion barrels.

It was not, however, until the GOM contracted with an American oil consulting firm to confirm its proven reserves that the world fully realized the significance of Mexico's oil and gas reserves. The consultant's 1977 report confirmed PEMEX's proven reserves at 11 billion barrels of oil and gas. Despite the report, there was speculation that Mexico was inflating its reserve figures to attract needed foreign capital. According to an oil industry trade magazine, the consulting firm revised its estimate of Mexico's proven oil and gas reserves upward to 14.6 billion barrels at the end of 1977. Additionally, the U.S. Embassy reported in February 1978, that proven reserves of some 17 billion barrels of petroleum could reach over 100 billion barrels in the future if some of the more optimistic estimates of geological formations in Mexico proved out.

U.S.-MEXICO GAS NEGOTIATIONS: HISTORY AND POLICY ISSUES

The series of discussions between the United States and Mexico on potential Mexican gas exports to the United States began in early 1977 when Mexican officials came to Washington and informed USG officials of Mexico's plans to offer gas to the United States. Throughout the spring and

^{1/}Luis Echeverria served as President of Mexico from 1970 to 1976.

summer of 1977, U.S. gas transmission company officials had meetings with PEMEX officials to negotiate for the purchase of natural gas. During this same period, DOE and State officials also had occasional meetings with U.S. gas company officials and Mexican officials to discuss the negotiations concerning Mexican gas exports and to discuss terms for the approval of a contract.

On August 3, 1977, a Memorandum of Intentions was signed between PEMEX and a consortium of six U.S. interstate natural gas transmission companies. 1/ The Memorandum called for a 6-year contract with initial deliveries of 50 million cf/d, later increasing to 2 billion cf/d beginning between 1980-82. The Memorandum also specified that the initial border price of the gas and subsequent quarterly price escalations be equivalent to a price based on British thermal unit (Btu) equivalence with the cost of distillate fuel oil delivered to New York. 2/ At the time of the signing of the Memorandum, this would have set the initial border price of Mexican gas at \$2.60 to \$2.80 per thousand cubic feet (mcf).

To deliver the gas to the United States, PEMEX had developed plans to build a 850-mile pipeline that would extend from the Reforma production region in Southern Mexico to border connections at McAllen, Texas. At the border, the gas would then be transferred to pipelines for distribution to the United States. The pipeline's capacity was estimated at 2.7 billion cf/d and completion was targeted for 1979 with deliveries to begin at about that time.

PEMEX had originally intended to finance the pipeline by forming a holding company. Forty-nine percent of the stock would have been held by PEMEX, 49 percent by U.S. banks and gas companies, and the remaining 2 percent by construction companies responsible for building the line. Mexican industries, however, could only furnish a limited amount of the required equipment for the pipeline. PEMEX, therefore, sought loans from various financial institutions and negotiated two loans totaling \$590 million with the

1/The six companies were: Tenneco Inter-America, Inc.; Texas Eastern Transmission Corporation; El Paso Natural Gas Company; Transcontinental Gas Pipeline Corporation; Southern Natural Gas Company; and Florida Gas Transmission Company.

2/One million Btu's are equal to approximately 1,000 cubic feet.

Export-Import Bank of the United States to cover the costs of obtaining U.S. pipeline equipment. The new gas line represented a major export opportunity for U.S. suppliers of large-diameter pipe, construction, excavation, welding equipment, compressor stations and turbines. The Bank estimated that both loans would result in the sale of \$988 million of American goods and services and create 40,000 jobs for American workers. The Bank notified the Congress on September 9, 1977, of its intention to provide financing to PEMEX.

Congressional opposition, however, arose over the Export-Import Bank loan. On October 19, 1977, a Senate concurrent resolution was introduced which stated that the Bank should not provide financing to PEMEX "* * * unless and until the American public can be assured of obtaining reasonably-priced natural gas imports from development and construction * * *" of the proposed pipeline. The primary objection voiced to the Bank loan was that the proposed price of \$2.60 per mcf was far in excess of the price of domestically produced gas and the price of Canadian and Algerian gas at the border. ^{1/} It was also argued that when transportation costs were added, the price of Mexican gas would jump even further to \$3.60 per mcf in some U.S. markets. It was contended that \$1.75 per mcf would be a far more realistic and equitable border price; at this price, PEMEX would still receive ample profits.

No further action was taken on the Senate resolution and the Export-Import Bank eventually approved both loans after some delay on December 15, 1977. Disbursement was contingent, however, on U.S. regulatory approval of the gas contract. Mexican officials strongly objected to what they perceived as the linkage of U.S. financial assistance to the export price of Mexican gas and refused to lower the gas price to overcome U.S. Senate objection. They stated Mexico would attempt to sell the gas elsewhere or use the surplus gas domestically. In November 1977, Mexico received an additional \$1.2 billion loan from a consortium of 119 banks in 13 countries. U.S. banking participation was led by the Bank of America and Morgan Guaranty Trust.

During the Export-Import Bank loan controversy, the United States decided to initiate direct discussions with the GOM. DOE and State officials met with GOM officials in

^{1/}In late 1977, the price of U.S. interstate gas was \$1.46 per mcf; Canadian and Algerian gas export prices at the border were \$2.16 per mcf and \$2.25 per mcf respectively.

November and again in December 1977 to discuss the proposed contract terms. At these meetings, U.S. officials identified terms in the original Memorandum of Intentions unacceptable to the United States and sought to reach a general government-to-government agreement on contract terms within which U.S. companies could then negotiate. U.S. officials stressed that the purpose of the consultations was not to negotiate a contract; actual contracts were to be negotiated between PEMEX and the U.S. companies.

These meetings, as well as another separate meeting between Mexican officials and the Secretary of Energy in late December 1977, failed to produce any general agreement on contract terms. Mexico and the United States each held firm to their respective positions. Without any agreement, negotiations broke off and PEMEX allowed the Memorandum of Intentions to expire on December 31, 1977. Both governments indicated they would await enactment of new U.S. gas pricing legislation before resuming negotiations.

During 1978, a resumption of official government-to-government negotiations on natural gas sales did not take place. It was during this time that Mexico began to modify its plans for export of gas to the United States and explore ways to increase gas use domestically. In October 1978, President Lopez Portillo told the press that Mexico would be using more gas domestically and, therefore, could not sell the United States the large amounts of gas originally envisioned in 1977. He had announced that Mexico would complete the pipeline only to Monterrey ¹/ and restructure its industry to expand domestic gas consumption.

Mexican natural gas sales to the United States were a topic of discussion during President Carter's visit to Mexico in February 1979. In meetings with President Lopez Portillo, President Carter pledged to develop means to expedite natural gas sales to U.S. companies and both Presidents agreed to have their governmental representatives meet to discuss the best means to facilitate such sales. As a result, in April, the United States and Mexico officially resumed talks on Mexican natural gas sales to the United States. After seven rounds of talks between the two governments, an agreement was reached on September 21, 1979. The agreement was described as an understanding on a framework within which both governments could authorize and support, as a matter of policy,

¹/The pipeline was subsequently completed to San Fernando and Monterrey in early 1979.

commercial contracts for natural gas trade. Terms of the framework were as follows:

- The initial volume of natural gas deliveries will be 300 million cf/d, commencing as soon as contracts are signed, regulatory approvals obtained, and gas is available for delivery.
- The initial price will be \$3.625 per million Btu's as of January 1, 1980.
- The initial price will be adjusted quarterly by the same percentage as the change in world crude oil prices pursuant to a specific formula to be agreed upon by the contracting party.
- The framework provides for gas trade as long as there is a demand in the United States, and Mexico has a surplus. (Either nation, on the basis of its national interest, taking into account its domestic supply and demand for natural gas, may cause the termination of the arrangement upon 180 days notice to the other nation.)

A contract was signed on October 19, 1979, between PEMEX and Border Gas, Inc., a firm jointly owned by the same six American pipeline companies as were involved in the original agreement in 1977. In November 1979, Border Gas, Inc., submitted an application to the U.S. regulatory agencies for authority to import Mexican natural gas into the United States. U.S. regulatory agencies approved the application in December 1979 and in January 1980 Mexico began to export natural gas into the United States at a price of \$3.625 per million Btu's. In March 1980, however, PEMEX announced that it had notified U.S. companies of its intention to boost the price to \$4.47 per million Btu's.

Policy issues in U.S.- Mexico gas negotiations

Negotiations in 1977 between the United States and Mexico over natural gas probably occurred at the most inopportune time for U.S. policymakers. A new American administration had been in office for less than a year, DOE had only recently been organized, and energy priorities and legislation were being established. By mid-1978, the Congress had not yet acted on a U.S. energy program and both U.S. and Mexican officials were reluctant to resume negotiations on natural gas sales until the U.S. Congress

had acted. The Natural Gas Policy Act of 1978 was subsequently enacted on November 9, 1978.

Differences between the United States and Mexico on contract terms for the sale of Mexican natural gas focused on the following aspects of the proposed contract between PEMEX and the companies:

- initial border price and the price escalation formula,
- duration of the contract and security of future supply to the United States, and
- U.S. regulatory process for approving gas imports.

Price

The initial border price and the formula upon which the future price of Mexican gas would be based were the most controversial and publicized issues in the negotiations. U.S. officials advised Mexico and the U.S. companies before the Memorandum of Intentions was signed in August 1977 that an initial border price of \$2.60 per mcf was much too high; it was much higher than proposed prices of domestically produced gas (\$1.75 per mcf) and gas imports from Canada (\$2.16 per mcf). The U.S. position was basically drawn from the fear that if the United States agreed to pay Mexico's asking price, Canadian officials would insist on raising their gas export price to match Mexico. U.S. officials also thought that a price higher than that paid to domestic producers of new gas would be politically controversial and difficult to justify economically. U.S. officials, therefore, felt that any pricing arrangement should take into account the price of domestically produced gas and should not be one which would be above the price paid for gas imports from Canada.

Also disturbing to U.S. officials was the linkage of the initial and future price of Mexican gas to the price of imported No. 2 distillate fuel oil. ^{1/} The U.S. position was that No. 2 fuel oil is not an appropriate replacement for natural gas, and, therefore, should not be used as a pricing

^{1/}Distillates, also known as No. 2 fuel oil, are liquid petroleum products condensed from vapors during distillation. Distillates usually refer to jet fuel, kerosene, diesel fuel, or home heating oil.

base for Mexican gas. It was believed that such linkage would only reinforce or legitimize the OPEC oil cartel and create a world price for gas based upon OPEC pricing. Oil pricing decisions by OPEC members would then determine Mexican gas prices; and the setting of prices would be controlled by political actions rather than through normal economic exchanges governed by free market forces. Moreover, it was argued that a third party should not be allowed to establish prices on a private deal between Mexico and the United States.

The \$3.625 per million Btu's finally agreed upon reflected the cost of a mix of distillate and residual fuel 1/ oils in a basket of U.S. regional markets. We were told that quarterly adjustments in the initial price would be based on a world crude oil price index which was later negotiated by PEMEX and the U.S. companies.

In the contract signed in October 1979, PEMEX and Border Gas, Inc., agreed that quarterly price escalations would be adjusted based on an average of the export contract prices in U.S. dollars per barrel for crude oils sold by OPEC, Mexico, the United Kingdom, and Norway. 2/ No refined products were included in the escalation formula. It was also agreed, that regardless of whether or not deliveries are actually made during the initial delivery quarter--which begins January 1, 1980--the initial \$3.625 price agreed upon would serve as a reference in setting the price in succeeding delivery quarters.

Duration of contract and
security of supply

Another policy concern dealt with the 6-year duration of the contract. U.S. officials were concerned that such a provision would tend to politicize an economic issue if reopening the contract every 6 years would coincide with the timing of Mexican presidential elections. A 6-year contract

1/Residual fuel oils, also known as No. 6 fuel oil, are heavier products or the residue left after the light products are removed from crude oil in the distillation process. These residual oils are used chiefly as fuels in industry, marine transportation, and for electric power generation.

2/The crude oils designated were Mexico Isthmus, Saudi Arabia Arab Light, Algerian Sahara Blend, North Sea Forties, and Venezuela Tia Juana Medium 26 degrees.

would permit Mexico to change the price formula and unilaterally determine the volumes available for export during the following 6 years. Future supplies of gas to the United States beyond a 6-year contract would therefore not be guaranteed. In order to assure a security of supply for U.S. customers, the U.S. officials favored a longer contract term. Gas industry officials told us, on the other hand, that they were not concerned about accepting a 6-year contract because once gas was flowing to the United States, it would be difficult for Mexico to stop deliveries due to the revenue being received. In addition, it was reported by the U.S. Embassy in Mexico that a 6-year contract would coincide with PEMEX expectations of having new supplies of gas available from wells in Mexico's continental shelf.

USG officials were also concerned with the "take or pay" provision of the proposed contract which said the U.S. gas companies would have to pay Mexico for the gas whether or not they decided to take deliveries of gas. USG officials said this provision could lead to U.S. domestic production being restricted or "shut-in" during times of excess gas supply.

The final agreement reached on September 21, 1979, did not establish a specific term of duration for the contract. U.S. and Mexican officials only agreed to maintain gas trade as long as (1) there is demand in the United States and (2) Mexico has a surplus. The understanding reached was that the gas to be supplied would be surplus gas in excess of Mexican national demand and that the gas being purchased is to meet U.S. needs not covered from other sources. Either country, on the basis of its own determination of its national interest, taking into account its domestic supply and demand for natural gas, may cause the termination of the arrangement upon 180 days notice to the other nation.

The new contract signed between PEMEX and the U.S. companies included a take or pay provision. The provision obligates U.S. companies to take or pay for up to 75 percent of the Daily Contract Quantity. 1/ U.S. officials told us their understanding is that this provision would continue to be in force up to the date of termination in the event either

1/The Daily Contract Quantity is 80 percent of Mexico's surplus gas volumes, determined on the basis of average daily quantities which Mexico has available for delivery under the contract during each calendar month. Such surplus gas volumes may be higher than the initial 300 million cf/d gas volumes slated for delivery.

party chose to terminate the contract in accordance with the 180-day prior notice agreement. However, a U.S. official told us that the take or pay provision is no longer a concern because the initial volumes are so small that the United States could easily absorb the deliveries. According to the administration, the initial volume of natural gas deliveries are equal to about one-half of 1 percent of total U.S. gas consumption and 8 percent of U.S. natural gas imports.

U.S. regulatory approval process

Mexican puzzlement over the complex U.S. regulatory process for approving U.S. imports was another major policy concern during the negotiations. In meetings held with Mexican officials in 1977, U.S. officials explained the U.S. regulatory process on gas imports and informed Mexican officials that the law required the importing companies to receive authority from U.S. regulatory agencies to import gas and to construct reception and transmission facilities, if needed. ^{1/} The United States also initially required certain technical information which the GOM believed inappropriate. U.S. officials told us that the GOM believed U.S. gas companies possessed the authority to sign contracts and could handle any U.S. regulatory problems. One Mexican official thought the six U.S. companies would obtain whatever guidance or clearance necessary from the Federal Energy Regulatory Commission and then negotiate with PEMEX.

In regard to the new application submitted by the U.S. companies to import Mexican natural gas, which received U.S. regulatory approval in December 1979, a U.S. official told us that Mexico was not required to submit technical information. If there are subsequent increases in Mexican gas imports, the increased amounts will have to also be approved by U.S. regulatory agencies, particularly since new facilities will have to be constructed to handle the increased volumes.

INFORMATION EXCHANGES AND OTHER AREAS OF COOPERATION

Until 1979, energy cooperation between the United States and Mexico was not extensive. The only major agreement between the two countries was a cooperative study of Mexico's

^{1/}Prior to October 1977, the Federal Power Commission had responsibility for considering import applications. These functions are now performed by DOE's Economic Regulatory Administration and the Federal Energy Regulatory Commission.

Cerro Prieto geothermal reservoir undertaken by Mexico's Comision Federal de Electricidad and the former U.S. Energy Research and Development Administration which is now part of DOE.

The agreement was signed in July 1977 under the auspices of the U.S.-Mexico Cooperative Science Program which emerged as a result of the June 15, 1972, "Scientific and Technical Cooperation Agreement Between the United States of America and Mexico."

This agreement established a Mixed Commission to formulate and review the overall purposes of the program, and to

- increase the scientific and technical capacity of the two countries in order to strengthen their economic and social development;
- intensify relations between the scientists and technicians of the two countries; and
- provide additional opportunities to make better use of combined efforts through the exchange of persons, ideas, skills, experiences, and information.

The potential for expanding energy cooperation between the United States and Mexico has been under review by appropriate U.S. agencies since 1976. However, until 1979 there was little progress beyond the (1) establishment of energy as a subtopic under the Mixed Commission, (2) establishment of an energy subgroup within the Consultative Mechanism (see ch. 3), and (3) geothermal agreement.

At a meeting of the U.S.-Mexican energy subgroup of the Consultative Mechanism held in the summer of 1977, both governments agreed to continue their contacts to determine to what extent it may be useful to have continuing exchange of views on energy planning and to have energy data exchanges. However, little progress was made in establishing energy data exchanges. A U.S. Embassy official told us in December 1978 that energy data exchanges between the two countries at that time were essentially non-existent.

Cooperative programs in non-nuclear technology, solar energy, energy conservation technology, coal technology, and energy systems analysis have been mentioned as topics that could provide excellent opportunities for expanded bilateral cooperation. DOE officials told us, however, that DOE implementation of cooperative programs in energy technology and

solar energy must be integrated with similar domestic programs. Therefore, funding for such cooperative programs can only be made available in connection with DOE program monies committed to existing research and development programs. No separation of international and domestic programs regarding specific international energy issues exists within DOE. In establishing and implementing policies or programs regarding international energy issues, DOE must take into account their impact on domestic energy policy.

In 1979 DOE began to move toward measures or initiatives to expand energy cooperation with Mexico. A number of projects regarding U.S.-Mexico energy technology cooperation were proposed or planned under the auspices of the U.S.-Mexican Mixed Commission during 1979. According to DOE, the joint projects involve visits, exchanges of information, and expansion of cooperation in such areas as:

- Solar Systems Research and Design. The most significant initiative in this area are plans for cooperation in the development of a solar village in Mexico.
- Geothermal Cooperation. Mexico has expressed interest in expanding geothermal cooperation with the United States. A meeting in Mexico was scheduled in late January 1980 to discuss expanded cooperation.
- Uranium Exploration. Mexican officials have visited research facilities and mining companies in the United States.
- Fossil Fuels Research. Joint seminars were planned in the field of fossil fuels research and development.
- Hydrogen Storage. DOE sent information on DOE hydrogen research and development programs to Mexico.
- Industrial Energy Conservation. A DOE official met with Mexican officials to discuss DOE conservation programs and provide reports on conservation work.
- Electrical Energy Systems. Meetings were held and seminars planned for cooperation in 18 cooperative projects in the area of electrical energy systems.

U.S.-MEXICO CRUDE OIL SWAP

One area of possible cooperation between the two countries involves the swapping of Alaskan oil for Mexican oil. Under one proposal, Alaskan oil would be delivered directly to Mexico's West Coast in exchange for an equal quantity of Reforma crude being delivered to the U.S. Gulf Coast. A second proposal calls for the shipment of Alaskan oil to Japan in exchange for Mexican oil being sent to the U.S. Gulf Coast. It has been estimated that under this arrangement, \$2 per barrel in transportation costs could be saved.

In November 1978, we were told by State Department officials during our visit to the U.S. Embassy in Mexico and by State officials in Washington in February 1979 that there had not been any direct government-to-government discussions between Mexican and U.S. officials regarding a possible swapping arrangement or any U.S. Embassy effort to determine the receptivity of Mexican officials toward possible swaps. There has also been strong congressional concern over any Alaskan oil swapping arrangements. Mexican officials, however, have stated that the GOM has always favored oil swapping arrangements.

Then Secretary of Energy Schlesinger said on January 17, 1979, that he viewed a possible swap with Mexico as a way of offering mutual savings and benefits to both countries. Current administration officials refuse to make public comments on a possible swap with Mexico until a complete review of the issue is completed. Issues under review included

- national security considerations of such an exchange;
- the time period and the volumes involved;
- impact on consumer prices; and
- legal and legislative requirements for an exchange of this nature.

On September 29, 1979, the Export Administration Act of 1979 (Public Law 96-72) was enacted. This Act, for the most part, prohibits the export or exchange of Alaskan oil unless the President ensures that certain conditions are met in exporting Alaskan oil, reports such findings to the Congress, and the Congress, within 60 days thereafter, agrees to a concurrent resolution approving such export or exchange on the basis of the findings. DOE officials told us that the Act makes it virtually impossible to swap Alaskan oil.

ELECTRICAL POWER EXCHANGES

Increased electrical exchanges across the border, similar to U.S. exchanges with Canada, is another area of potential cooperation between the two countries. One U.S. company, the San Diego Gas and Electric Company, has been discussing the prospects of purchasing electricity from Mexico. Under an early proposal, the Comision Federal de Electricidad, the Mexican Government-controlled utility, and San Diego Gas would jointly construct an oil-fired power plant in Mexico. Electricity generated by the plant would be exported to San Diego Gas. The proposal was opposed because such a project was inconsistent with U.S. goals of discouraging oil-fired plants and encouraging conversion to coal-fired plants.

After the completion of a 6-month joint study with the Comision Federal de Electricidad, San Diego Gas announced in December 1978, that emphasis would instead be on establishing a transmission interconnection between the two utility systems for power exchanges. In April 1979, San Diego Gas filed an application before the Economic Regulatory Administration for a Presidential Permit to construct and operate a 230,000 volt electric transmission line crossing the United States and Mexican border near Tijuana, Mexico.

As of March 1980 the application was still pending and an environmental impact statement was being prepared on the proposed project. An Economic Regulatory Administration official told us that such a project would provide the United States with excellent opportunities to purchase electricity and improve Mexico's overall electricity system.

U.S. COMPANY PARTICIPATION IN MEXICO'S ENERGY PROGRAM

PEMEX plans to invest \$16.5 billion by 1982 for energy-related equipment and technology. Approximately half of this equipment and technology will come from foreign suppliers since local manufacturers are not capable of producing all the necessary equipment required for Mexico's oil and gas development program. Historically, the United States has maintained a 70-percent share of PEMEX's foreign purchases.

Foreign participation in Mexico's energy program has primarily been limited to providing equipment and technical services. The reason for this is twofold. First, Mexican law disallows any foreign direct investment in petroleum, basic petrochemicals, electrical power, and gas distribution systems. Foreign companies, therefore, cannot share in the ownership or profits of Mexico's

oil and gas industry. Second, Mexico's petroleum workers union has strict control over certain facets of PEMEX's drilling program. For a number of years, petroleum union workers have had a virtual monopoly on onshore production drilling and well completion. Subcontractors could only drill exploratory, riverine and marine wells.

Although PEMEX manages and controls development of their resources, U.S. firms do participate on a service contract basis. U.S. companies were providing PEMEX with technical assistance in constructing the Reforma-Monterrey gas pipeline, participating in offshore development, and providing engineering and design expertise for gas treatment facilities. U.S. firms have also been chosen by PEMEX to conduct studies of the rate at which Mexico's oil and gas reserves could be developed, conduct market surveys for gas exports to the United States, and perform reservoir studies to validate Mexico's hydrocarbon reserves.

Although PEMEX continues to favor U.S. equipment and expertise, other countries have been penetrating the market:

--Japan has lent \$150 million to improve port facilities at Salina Cruz on the Pacific coast.

--In December 1977, Mexico arranged a credit line with a group of French banks for \$200 million for the purchase of French oil production equipment.

--Four countries, Japan, Germany, France, and Italy received contracts to supply gas pipeline for \$65 million, \$63 million, \$49 million, and \$34 million, respectively.

Mexico is also expanding the number of countries with which it has technical agreements. A U.S. Embassy official told us that Mexico has non-binding, non-implementing technical agreements with Bulgaria, Costa Rica, Jamaica, Rumania, and the Soviet Union.

U.S. INVESTMENT AND TRADE WITH MEXICO

Mexico's potential as an oil power, its internal development needs, and the world demand for petroleum products will open up new economic opportunities for Mexico. These factors will offer the United States and Mexico the chance to initiate a new era in trade and investment. Although the

United States for a long time has had an appreciable positive trade balance with Mexico, increasing Mexican petroleum exports have made this balance smaller in recent years. Mexico will, however, need substantial foreign investment to create jobs and acquire the technology to build a modern economy.

U.S. investment in Mexico has made up the bulk of total foreign investment in Mexico. In 1978, for instance, the U.S. share of total direct and indirect foreign investment reached 73 percent of the \$6 billion total foreign investment in Mexico. According to Department of Commerce statistics, 1/ direct U.S. investment 2/ in Mexico at the end of 1978 totaled approximately \$3.7 billion, divided as follows: mining and smelting, \$97 million; petroleum, \$41 million; manufacturing, \$2.7 billion; trade, \$563 million; finance and insurance, \$112 million; and other industries, \$147 million. However, increasing participation by other countries could reduce the U.S. share of investment in Mexico.

Mexico's attitude toward foreign direct investment has generally been one of caution and selectivity. Mexico tends to take the line of most developing countries which is that regulation of foreign investment is essential for carrying out its own development plans. It therefore follows policies aimed at controlling foreign investment by limiting the economic sectors in which it may operate, monitoring foreign companies' internal policies, requiring measurable conformance to national economic plans and subjecting to government veto the financial and technological aspects of foreign investment proposals. Investment is viewed most favorably when it brings technology not otherwise available; produces locally, goods that were previously imported; increases the country's exports; or when it provides substantial new employment.

In May 1973, Mexico put into effect a major new investment law that codified past investment policies and added new controls over foreign investment. The "Law to Promote Mexican Investment and Regulate Foreign Investment," established a

1/This data, contained in "Survey of Current Business," is based on book value estimates which tend to underestimate the actual value of investment.

2/Direct investment is defined as ownership or control of 10 percent or more of a business enterprise. Portfolio investments involve less than 10-percent ownership. Other investment flows relate to real estate (commercial and agricultural).

registry of foreign investment and a commission to regulate that investment. All foreign individuals and corporations with equity investments in Mexico and Mexican companies with any foreign ownership must register with the National Registry of Foreign Investment. The Foreign Investment Commission is empowered to approve or disapprove contracts governing the transfer of technology, e.g., royalties, patents, trademarks, and know how. Another law requires registration of all contracts and agreements involving the use of patents and trademarks with the National Registry of Technology Transfer within the Ministry of National Properties and Industrial Development. Other provisions of the law and other controls include

- limiting foreign ownership of new investment, including expansions to 49 percent;
- prohibiting foreign investment in a number of industries, including oil and gas exploration and production;
- controlling the price and term of contracts involving the transfer of technology;
- restricting the use of trademarks and patents; and
- establishing price controls and import curbs.

U.S. policy recognizes the right of each country to determine the environment in which foreign investment takes place in that country. However, U.S. officials have stated that the general USG goal is to promote an open world environment in which international investment can make a maximum contribution to international economic growth. The United States believes that private foreign investment can play an important role in the economic growth of the less-developed world through provisions of capital, management expertise, and technology.

U.S. officials have stated that increased foreign investment would contribute to Mexican economic development, alleviate unemployment and the problem of poor income distribution by increasing the production of manufacturers, especially of a labor-intensive nature. Specifically, U.S. officials would like Mexico to reduce price controls, import protectionism, national content rules, and job creation requirements. They also see some advantages of Mexico seeking greater private involvement in their industrial development.

In the area of overall trade, the United States has supplied between 62 and 64 percent of Mexico's imports and has received about 62 and 66 percent of Mexico's exports in 1976 and 1977, respectively. The pattern of U.S.-Mexican trade, however, is changing. The U.S. share of the Mexican market slipped from 64 percent in 1977 to 60 percent in 1978. ^{1/} According to a Department of Commerce official, the U.S. share for 1979 through the third quarter was 61 percent. The following table, based on Department of Commerce statistics, shows overall U.S. trade with Mexico from 1970-79:

TABLE 2

Overall U.S. Trade with Mexico
1970-79 (note a)
 (millions of dollars)

<u>Year</u>	<u>Total</u> <u>U.S. exports</u> <u>to Mexico</u>	<u>Total</u> <u>U.S. imports</u> <u>from Mexico</u>	<u>Trade</u> <u>balance</u>
1970	\$ 1,703.7	\$ 1,218.5	+ \$ 485.2
1971	1,620.0	1,261.6	+ 358.4
1972	1,982.2	1,632.2	+ 350.0
1973	2,937.4	2,287.0	+ 650.4
1974	4,855.3	3,390.4	+ 1,464.9
1975	5,141.3	3,058.6	+ 2,082.7
1976	4,990.0	3,598.1	+ 1,391.9
1977	4,822.0	4,694.2	+ 127.8
1978	6,680.5	6,092.8	+ 587.7
1979	<u>8,838.7</u>	<u>7,876.4</u>	+ <u>962.3</u>
Total	<u>\$43,571.1</u>	<u>\$35,109.8</u>	+ <u>\$8,461.3</u>

a/Through November 1979.

Mexican trade policy is based upon protection of its national industry and consumer markets through tariffs and an import licensing system. The import licensing process has been used to exclude imports of items considered nonessential to improve the balance of trade. The system is generally applied in a nondiscriminatory fashion and imports from all countries have been treated equally, with the exception of those from the member countries of the Latin American Free

1/These figures exclude border industry imports.

Trade Association 1/ who enjoy reduced rates or duty-free entry items in Mexico's schedule of concessions. Generally, Mexican firms may not place orders abroad nor may goods be shipped to Mexico before the importers or Mexican customs brokers obtain the required import licenses from the Mexican Secretariat of Commerce. Licenses are usually not granted for the importation of goods that are produced in the country, or for which locally produced products can be substituted.

The GOM has taken steps to dismantle the system of import licenses and improve trade with the United States. On December 2, 1977, the United States and Mexico signed the Tropical Products Agreement, their first trade agreement since 1942. Although the agreement only affected about \$63 million worth of Mexican exports to the United States, and less than 1 percent of U.S. exports to Mexico, it had special significance because it was the first trade pact concluded in the Multilateral Trade Negotiations. It also symbolized the prospects of closer and more cordial relations between Mexico and the United States. On December 29, 1977, the GOM removed the import license requirement from 1,913 items, substituted tariffs for import licenses, and increased their duty rates up to 60 percent.

A State Department official told us that although the Tropical Products Agreement was never ratified and is not an agreement in force, many of the items in the agreement have been included in a larger bilateral trade agreement reached with Mexico under the Tokyo round of Multilateral Trade Negotiations. This agreement, however, does not go into effect until Mexico joins the General Agreement on Tariffs and Trade. In November 1979 the GOM announced the beginning of a national debate on possible adherence to the General Agreement on Tariffs and Trade. In March 1980, President Lopez Portillo announced that Mexico would not enter into the general agreement at this time.

The traditional position of the USG has been that trade relations with Mexico should function within a multilateral trade forum. The United States places few restrictions on Mexican imports. Restrictions have been placed on shoes, textiles, and some agricultural products. Moreover, one U.S. official told us that a special trade relationship with Mexico would not be advantageous to the United States because such

1/Member nations of the Latin American Free Trade Association are: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay, and Venezuela.

a relationship would: (1) be opposed by U.S. industry and (2) be at odds with U.S. multilateral trade objectives.

U.S. officials have recognized that Mexico needs to increase the international competitiveness of its exports. They want Mexico to liberalize access for U.S. goods in Mexican markets. Restriction of imports leads to less competitive industries in Mexico and complaints from U.S. exporters about Mexico shipping products to the United States and restricting the same products from importation into Mexico. U.S. officials say that an export diversification program would help, but it would have to be combined with a gradual exposure to competition from imports to assure competitiveness.

Presidents Carter and Lopez Portillo agreed to continue working toward improving trade relations. A joint communique issued at the end of President Carter's trip to Mexico in February 1979 said:

"The Presidents * * * agreed that the future expansion of trade between the two countries will require a continuous liberalization of both countries' trade policies, in accordance with the trade, financial and development needs of each nation. They also committed themselves to renew their efforts to this end and to carry out close consultations on trade and financial matters. President Lopez Portillo reasserted the Mexican Government's decision to continue the process of gradually eliminating non-tariff barriers, and to do so with prudence, caution and according to international economic conditions. President Carter noted that his Administration had given special attention to Mexico's export needs in the implementation of U.S. trade laws and committed himself to continue to oppose protectionism and to resist attempts to reduce the security of access to U.S. markets for Mexican products."

OBSERVATIONS

The United States, as Mexico's largest trading partner, could play a key role in Mexico's future development plans. Through increased trade relations with the United States and other countries and by helping to meet U.S. and world demand for petroleum products, Mexico can obtain the capital needed to develop its economy. The impact of export revenues on the economy, specifically those derived from oil and gas, however, has been a major concern in the GOM. Mexican officials have stated that future expansion of hydrocarbon production and

exports will depend upon Mexico's ability to absorb "petro-
pesos." Expanding hydrocarbon production and exports would
bring into Mexico much-needed foreign exchange to aid in its
development of the economy. However, observers have noted
that an excessive inflow of oil revenues could also destabi-
lize the economy and the political system and might cause
Mexico to cut back on production and exports as discussed in
chapter 5.

CHAPTER 3

SEARCH FOR A PROPER U.S. ENERGY

RELATIONSHIP WITH MEXICO

U.S. officials generally agree that they would like to see Mexico develop its oil and natural gas resources in order for Mexico to

- assure its economic viability and political stability,
- become a new major world oil supplier, and
- become an alternative and relatively secure energy source for the United States.

In April 1979, President Carter directed new measures be taken to improve U.S. ability to achieve these objectives and more effectively coordinate all issues relating to U.S. relations with Mexico. The President also called for U.S. agencies to accord a high priority to all matters within their respective jurisdiction affecting Mexico and to coordinate closely all proposed actions which may have an effect on Mexico. The new measures announced by the President included

- appointing a U.S. Coordinator for Mexican Affairs,
- establishing a Senior Interagency Group on U.S. Policy Toward Mexico, and
- restructuring and strengthening the U.S.-Mexico Consultative Mechanism.

The executive branch, over time, however, has had difficulties in determining how best to achieve U.S. objectives in view of Mexican sensitivities to U.S. involvement in its energy development. Some segments of public opinion and the press in Mexico for instance, have maintained that Mexico should not supply the United States with large quantities of its petroleum and natural gas. They argue that increased revenues to be gained from such sales would be offset by the greater U.S. influence on the Mexican economy and even the future political system. U.S. officials recognize that the pace of Mexico's hydrocarbon production is its decision alone.

Historically, Mexico has been quite sensitive to U.S. presence in their energy policies. The lack of a properly defined U.S. energy relationship with Mexico, however, cannot be solely blamed on Mexican sensitivity to U.S. influence. U.S. Embassy officials told us they believed that U.S. energy supply considerations have not always been consistent with other foreign policy considerations toward Mexico. On the one hand, the United States is interested in having Mexico develop its oil and gas resources at a pace which ensures the development of a stable, progressive, and economically viable country. On the other hand, the United States did not want imports of Mexican energy resources, such as natural gas, to threaten U.S. domestic energy policy or production.

DIFFICULTIES EXPERIENCED BY THE
EXECUTIVE BRANCH IN COORDINATING
U.S.-MEXICO POLICY

Until a high-level review of U.S.-Mexican relations was conducted in 1978, there was no concentrated U.S. effort to coordinate the many diverse interests between Mexico and the United States either through linkages of issues or trade-offs between conflicting U.S. objectives. The feasibility of such linkages or barter arrangements was one of the suggested topics for review during the high-level review. One official told us, however, that the United States was complacent about bilateral energy cooperation with Mexico because of the belief that the United States would continue to receive well over 60 percent of Mexico's exportable surplus. U.S. officials expected that Mexico would ultimately end up selling the bulk of its oil and gas exports to the United States because of the low transportation costs involved. Some U.S. officials, therefore, believed that there is no need for the United States to grant trade or other concessions in return for an agreement from Mexico on oil and gas exports.

This "linking" of Mexico's oil and gas exports to receiving grain or other trade concessions from the United States is seen by some Mexican observers as a way for Mexico to enhance its relative bargaining position in dealings with the United States. Linking oil and gas exports to favorable U.S. action in the handling of illegal aliens has also been considered. Within the last few years, other informal discussions have occurred between the two countries concerning possible linkages.

Both U.S. and Mexican officials, however, have told us that neither country is interested in linking arrangements. A U.S. official involved in the 1979 gas negotiating sessions told us that there were no discussions concerning linkages of

gas sales with other issues. The Mexican Embassy's Minister of Economic Affairs also told us that there has been no attempt to link sales of Mexican oil and gas exports in return for favorable treatment in other areas. He said Mexican oil and gas is contracted for on a straight commercial basis and that Mexico's present oil agreements with other countries are based on similar arrangements.

Several U.S. officials have also told us, that the executive branch has not been structured in the past to discuss linkages of crucial U.S.-Mexico bilateral issues. One U.S. official told us that trade-offs between issues are inconceivable and would not work domestically. U.S. officials and other observers have noted that bilateral issues are often "piecemealed" or compartmentalized among U.S. agencies; issues such as energy, trade, and immigration have domestic as well as bilateral implications and therefore involve a wide range of U.S. agencies. U.S. officials have told us that U.S. agencies, therefore, retain their own organizational interests in deliberating upon U.S.-Mexico policy.

PERFORMANCE OF EXISTING BILATERAL MECHANISMS NOT UP TO EXPECTATIONS

Cooperation and exchanges between foreign governments with respect to specific policy issues have been traditionally pursued on four levels: (1) through discussions or negotiations held on a personal basis between heads of state or designated high-level government officials; (2) through discussions held between embassy and host government officials; (3) through international organizations; or (4) through special bilateral mechanisms established to deal with specific issues. The United States and Mexico have occasionally established special bilateral mechanisms to examine problems and propose solutions regarding common policy interests. These mechanisms, in theory, provide a basis for governmental organizational interface on issues and help overcome any internal governmental or political barriers to cooperation.

The performance of present bilateral mechanisms, however, has not been up to original expectations. Until 1979, they did not receive strong executive support in either country and progress toward achieving joint objectives on critical bilateral issues were limited. Three bilateral groups have been established to deal with overall U.S.-Mexico relations: Consultative Mechanism; Quadripartite Commission; and Mexico-U.S. Interparliamentary Group.

Consultative Mechanism

The Consultative Mechanism, established after President Lopez Portillo's state visit to the United States in early 1977, is divided into separate working groups dealing with bilateral economic, social, and financial issues (the U.S. section of the Mechanism is chaired by the Secretary of State). The purpose of the Consultative Mechanism is to provide a focus for coordinating these issues among U.S. and Mexican Government officials.

In February 1979, both Presidents agreed to strengthen the Consultative Mechanism and provide it with more dynamism, cohesion, and flexibility. To achieve these goals, they agreed that concrete recommendations would be made on ways the Mechanism can more effectively solve problems, taking into consideration the close relationship among these problems. President Carter, in April 1979, announced that the two governments agreed to restructure the Mechanism through the addition of eight joint working groups, covering: Trade, Tourism, Migration, Border Cooperation, Law Enforcement, Energy, Finance and Industry, and Development.

Quadripartite Commission

The Quadripartite Commission, composed of Mexican and U.S. legislators, and U.S. businessmen, is designed to bring together the interests of business and government in Mexico and the United States.

Mexico-United States Interparliamentary Group

The Mexico-United States Interparliamentary Group, composed of Mexican officials and U.S. legislators, meets yearly to exchange opinions and discuss political, social, and economic issues. A joint statement and a report are usually issued at the conclusion of each meeting, but no votes or resolutions are passed. One high-level official told us that because the Mexican Congress does not make governmental policies, there is not much benefit or importance placed on either the Interparliamentary Group or the Quadripartite Commission.

According to the State Department, however, significant developments have taken place in Mexico's political system which have given the Mexican Congress more impact on government policy. The GOM is attempting to present an image of a multiparty state with an active legislative life. Moreover, as a result of elections held in July 1979, some

opposition forces have been included in the legislature which, State Department officials say, will make parliamentary debate somewhat more significant.

OBSERVATIONS

President Carter's April 1979 directives regarding coordination of U.S. policy toward Mexico could provide the framework for stronger U.S.-Mexico energy and foreign policy coordination and improved performance of the Consultative Mechanism. According to a National Security Council official, the appointment of the U.S. Coordinator for Mexican Affairs in October 1979 was particularly needed. The U.S. Coordinator will be responsible for ensuring that U.S. policies toward Mexico are developed and conducted in a coherent, flexible manner and are fully consistent with overall policy objectives toward Mexico. Management of U.S. participation in the working groups of the Consultative Mechanism will also be part of his responsibilities under his added role as Executive Director of the Consultative Mechanism. 1/

The President's directives also emphasize the increasing importance of our relations with Mexico. By requesting executive branch agencies to accord a high priority to U.S.-Mexico relations, the administration appears to be asking that a "special relationship" be recognized. The strengthening of the Consultative Mechanism, and the appointment of a U.S. Coordinator for Mexican Affairs, are all positive steps toward demonstrating to Mexico the heightened awareness and sensitivity of U.S.-Mexico relations within the executive branch. In addition, as discussed in chapter 2, the U.S.-Mexico Mixed Commission has shown some progress in 1979 toward U.S.-Mexico energy technology cooperation. Out of actions such as these, Mexico could become an alternative and relatively secure source of hydrocarbon supplies for the United States.

1/See appendix I for specific responsibilities of the U.S. Coordinator for Mexican Affairs.

CHAPTER 4

ENERGY'S ROLE IN MEXICO'S FUTURE

After experiencing relative economic stability during the 1950s and 1960s, Mexico found itself on the brink of economic disaster in late 1976. The recession brought on by the oil crisis of 1973 and 1974, coupled with Mexico's protectionist policies, resulted in an inflation rate of 20 percent in 1976, 1/ reduced private investment in Mexico's economy, an unemployment and underemployment rate approaching 50 percent, large balance of payments deficits, and foreign debts.

While Mexico was experiencing these growing economic difficulties, PEMEX was making discoveries of significant reserves of oil and gas. President Lopez Portillo has continuously indicated the role oil would play when he said it would be necessary for Mexico to expand petroleum production and exports as soon as possible to generate foreign exchange earnings for internal development programs. At the same time, however, he has cautioned that an increase in oil production should be achieved without distorting the Mexican economy, increasing inflationary pressures and creating political controversy.

Current Mexican policy toward petroleum production and exports reflects this concern. Although Mexico has projected that it will produce between 2.5 and 2.7 million b/d in 1980, President Lopez Portillo announced in early 1979 that production and export levels beyond 1980 are uncertain. He said oil production would not be increased beyond Mexico's capacity to absorb revenues from oil exports. PEMEX has also run behind its current production schedule. U.S. officials told us that lack of skilled personnel and equipment have caused Mexico to fall short of production goals in 1978 and 1979.

HISTORY OF MEXICO'S OIL INDUSTRY

Oil has played a central role in Mexican history. Oil was first produced in Mexico in 1901. The fields proved to be among the most prolific in the history of the world oil industry and within 20 years production levels rose to where Mexico was second only to the United States in total production. This period of prolific oil production was followed, however, by declining production caused by overexploitation of modest reserves by foreign oil companies, damage to oil deposits, and unsuccessful exploration efforts.

1/The inflation rate in 1978 was 15-20 percent.

In 1938, Mexico nationalized its oil industry and expelled the 17 American and European oil companies operating in Mexico. The national petroleum company, PEMEX, managed by a Board of Administration composed of members from labor unions and government, was formed and given the responsibility for developing Mexico's petroleum resources. PEMEX is exclusively responsible for operating the nation's oil and gas industry, including exploration, production, refining, and transporting and marketing of oil, gas, and petrochemical products.

The United States, European countries, and the world petroleum industry reacted to the expropriation by boycotting Mexico's oil industry. Mexico could neither sell its oil to foreign customers nor buy energy equipment and technology from foreign suppliers. Consequently, Mexico's new national industry was forced to develop its own technical expertise. Although the process was initially slow, PEMEX managed to develop technical and operating competence, and became the country's largest employer, and a symbol of the country's independence. March 18, the date that the expropriation took place, is still celebrated annually.

The Mexican people have proved to be very nationalistic about their natural resources, especially petroleum. Petroleum production and export policy is a delicate subject in Mexican politics. There has been domestic opposition in Mexico to the government's oil export policy, particularly exports to the United States. Many fear that increased exports of oil and gas to the United States would result in a greater U.S. influence in the Mexican political and economic system.

SIZE OF MEXICO'S OIL AND GAS RESERVES

Executive branch records show that Mexico's proven crude oil reserves have increased dramatically in the last 3 years, as shown in table 3. At the end of 1975, Mexico had proven crude oil and condensate reserves of 3.95 billion barrels. The level of proven reserves increased over 700 percent by the end of 1978 to 28.4 billion barrels. During the same period, proven natural gas deposits increased from the equivalent of 2.39 billion barrels of oil to 11.79 billion barrels, or almost 500 percent. President Lopez Portillo announced on September 1, 1979, that Mexico had the equivalent of 45.8 billion barrels proven reserves of oil and natural gas and potential reserves of 200 billion barrels. He also announced that Mexico's hydrocarbon reserves were the sixth largest in the world. Mexico's ranking is likely to improve, particularly in view of recent discoveries of new oil deposits and the

potential for finding additional reserves in areas remaining to be drilled. In March 1980, PEMEX announced that Mexico's proven oil and gas reserves had increased to 50.022 billion barrels of oil equivalents.

TABLE 3

Mexico's Reserves (note a)

(in billions of barrels)

Year ending	<u>Proven</u>			Reserves to production ratio (oil and gas)	<u>Probable</u>	<u>Potential</u>
	<u>Crude oil and condensate</u>	<u>Natural gas b/</u>	<u>Total</u>			
1970	3.290	2.280	5.570	18	NA	NA
1971	3.230	2.200	5.430	18	NA	NA
1972	3.240	2.150	5.390	17	NA	NA
1973	3.270	2.160	5.430	17	NA	NA
1974	3.540	2.270	5.810	15	NA	NA
1975	3.950	2.390	6.340	14	NA	NA
1976	6.570	4.590	11.160	25	NA	NA
1977	10.430	5.570	16.000	30	29.200	120.000
1978	28.410	11.790	40.200	60	44.600	200.000

a/Mexico combines oil and gas reserve levels in an overall reserve estimate. Most sources agree that about 65 percent of Mexican reserves are oil and other hydrocarbon liquids. The remaining 35 percent represents natural gas.

b/Natural gas in oil equivalent form. PEMEX uses a conversion factor of 5,000 cubic feet of gas per barrel of oil equivalent.

Some observers believe PEMEX's proven reserve estimates are conservative. It is often felt that PEMEX follows very conservative practices in evaluating its reserves. They base their feeling on a traditional conservationist ideology, and a Mexican fear of international pressure, including pressure from the United States, to draw down on their reserves. A World Bank study 1/ noted what may be a systematic

1/"Special Study of the Mexican Economy, Major Policy Issues and Prospects, 1977-82."

underestimation of reserves by PEMEX officials. Other observers, however, have said that PEMEX inflates its proven reserve figures to attract foreign financing and to justify to the Mexican people the GOM program to increase oil and gas exports.

Arriving at a consensus on Mexico's potential petroleum resources (undiscovered reserves) has also been difficult. There are several reasons for this, such as

- some geologically promising regions have not been explored;
- the reluctance of PEMEX to allow outsiders to examine data; and
- the lack of manufactured equipment capable of drilling to the depths required to delineate the full extent of known reserve deposits.

U.S. officials we interviewed were generally reluctant to commit themselves concerning Mexico's ultimate petroleum resource level. However, some feel Mexico's reserves could be as large as Iran's reserves. PEMEX consultants have estimated the potential oil reserves from the onshore Reforma area to the offshore Ixchel area alone at 320 billion barrels.

Regardless of the actual or potential proven reserve base of Mexico, it is clear that Mexico's energy resources are substantial and are likely to grow. The United States has completed several analyses showing that Mexico's proven and probable hydrocarbon reserves will most likely grow and could sustain a production level high enough to make Mexico one of the top world producers within a decade.

LOCATION OF MEXICO'S OIL AND GAS RESERVES

The total area of Mexico covers 2.5 million square kilometers including the continental shelf. One PEMEX official said 80 percent of Mexico appears geologically promising and studies to date forecast good prospects for about half of this area, or slightly over 1 million square kilometers. This breaks down to 690,000 square kilometers onshore and 440,000 square kilometers offshore on the continental shelves as potentially containing hydrocarbons.

The bulk of these areas extend from the northern border with the United States, along the Gulf Coast plain, to the States of Chiapas and Tabasco, into the Bay of Campeche and the Yucatan Peninsula in the southeast and in the western part

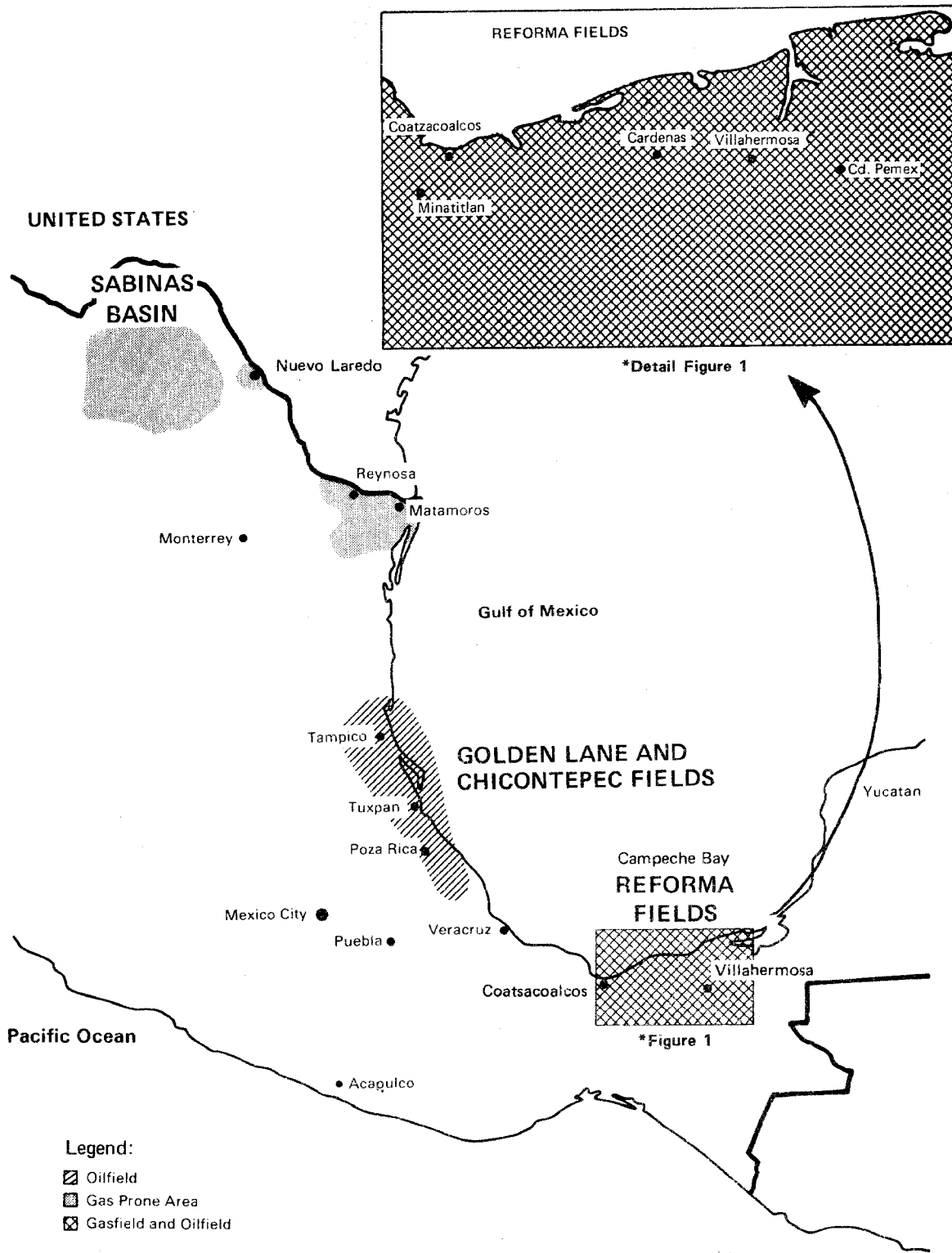
of Baja California on Mexico's west coast. Mexico's northern reserves are located primarily in the Sabinas Basin and the Reynosa area as shown on the map on the following page. Most of the natural gas in the northern area is nonassociated gas, that is, gas not produced in association with oil production. As of February 1978, 72 potential gas-producing structures had been located in the Sabinas Basin. A PEMEX manager has claimed that 3.2 billion cf/d of natural gas could be produced from these structures alone, or twice the 1.6 billion cf/d of natural gas Mexico was consuming in February 1978.

PEMEX announced in November 1978 that Chicontepec, located onshore along the Gulf Coast in the State of Vera Cruz, contains 100 billion barrels of oil in place. However, because of the difficult geological nature of the structures, 16,000 wells would be required to produce the oil and PEMEX projects recovery of only about 11 billion barrels.

A large portion of Mexico's current proven and probable reserves are located in the Reforma area in the States of Chiapas and Tabasco and the adjacent offshore areas. The exceptional character of the Reforma area is revealed by several factors: thickness of the oil columns, well productivity, success ratio of the exploratory drilling, and area covered by the individual fields.

MAP 1

Oil and Gas Provinces in Mexico



PEMEX officials said in 1978 that producing fields in the onshore Reforma area range from 45 to 150 square kilometers. The average well in the Reforma area produced nearly 5,500 b/d. Well flows of more than 10,000 b/d were reported. The success ratio for exploratory drilling was about 35 percent and developmental drilling about 80 percent.

The American Petroleum Institute measurement of oil gravities shows that oil in major Reforma fields ranges from 28 to 42 degrees. ^{1/} Some reports of American Petroleum Institute gravity in the condensate fields range from 33 to 51 degrees. Sulfur content of Reforma crude is generally very low, less than 2 percent, which is comparable to Saudi Arabian oil. Identification of the crude oil quality of major Reforma fields and other geological producing zones in Mexico, as obtained from executive branch records, is located on the following page.

An unusual characteristic of the Reforma area is the large quantities of natural gas found in association with the oil. In some fields the gas-to-oil ratio ranges from 2,000 to 9,000 cubic feet of gas per barrel of liquid hydrocarbons recovered. The high level of associated gas found in the Reforma area, along with the lack of a distribution system for domestic utilization of gas, has caused PEMEX to flare, or burn off, large amounts of natural gas in order to maintain oil production. At the end of 1978, PEMEX was flaring an average of 500 million cf/d, or \$1 million worth of associated gas. However, Mexico has recently been successful in using more gas domestically and flaring less. In the first 7 months of 1979, flaring dropped to an average of 300 million cf/d and in August 1979, Mexican officials said that flaring was down to 200 million cf/d.

Oil and gas have also been found at other sites offshore in the Bay of Campeche. When the discoveries were initially made it was thought that the Bay of Campeche was an extension of the Reforma area. However, PEMEX claims the offshore discoveries represent a new and separate trend and not a part of the Reforma area. Additional exploratory drilling will have to be done to determine the true nature of the offshore reserves. An official of an American firm assisting in developing offshore reserves told us that he believes the level of associated gas in the Bay of Campeche will not be very high.

^{1/}Specific oil gravity is a comparison of the density of a volume of oil to the density of the same volume of water. The higher the gravity, the better the quality of the oil.

TABLE 4

Mexico: Crude Oil Quality

<u>Geological producing zone</u>	<u>Oil gravity (degrees) (note a)</u>	<u>Sulfur content (note b)</u>
Northeastern Mexico Tertiary Sandstones	35-47	low
Tampico Embayment		
a. Tampico district Fractured Cretaceous limestones	12-18	medium to high
Cretaceous upper Jurassic limestones	26	high
b. Golden Lane El Abra (Cretaceous) limestone	13-40	low
c. Poza Rica Tamabra (Cretaceous) limestone	21-35	low
Veracruz Basin Cretaceous limestones	15-38	high
Isthmus Salt Basin Tertiary sandstones	22-40	medium
Macuspana Basin Tertiary sandstones	30-47	not available
Tabasco-Chiapas Arch (Reforma area)		
Tertiary sandstones	29-42	medium
Cretaceous dolomitic limestones	28-40	low
<u>Major Reforma field crudes</u>	<u>Oil gravity (note a)</u>	<u>Sulfur content (percent)</u>
Samaria	31.3	1.7
Cunduacan	30.6	1.8
Cactus	38.3	1.1
Sitio Grande	35.7	1.1

a/Measured in terms of standards established by the American Petroleum Institute.

b/Sulfur content of 1-2 percent is considered low, 3-4 percent medium, and 5-6 percent high.

There are also prospects for finding additional energy deposits in other areas of Mexico. For example, the Baja California region in Mexico could prove to be an energy bonanza. PEMEX said in October 1977 that there were 150 promising geological structures onshore and over 200 offshore remaining to be drilled. U.S. officials, however, told us that no oil had been recovered from these structures so far.

PEMEX'S DEVELOPMENT AND PRODUCTION PLANS

Shortly after taking office in December 1976, President Lopez Portillo authorized a massive oil and gas development program for PEMEX. The original program called for expenditures of \$45 billion between 1977 and 1982, including \$15.5 billion for new investments, 1/ divided as follows.

<u>Investment area</u>	<u>Cost</u> (billions of dollars)	<u>Percent of total</u>
Exploration	\$ 3.60	8
Production	20.70	46
Refining	6.75	15
Petrochemical	7.65	17
Transportation and distribution	5.85	13
Other	<u>.45</u>	<u>1</u>
Total	\$ <u>45.00</u>	<u>100</u>

In 1977, PEMEX set the following goals for its 6-year program,

- increase exploratory efforts by drilling 1,324 new wells;
- increase development efforts by drilling 2,152 production wells;
- increase crude oil production to 2.242 million b/d by 1982;
- expand production of natural gas from 2.1 billion cf/d in 1976 to 4 billion cf/d by 1982;

1/Funds for new investments have since been increased to over \$16 billion.

- double refinery capacity to 1.67 million b/d;
- triple yearly petrochemical capacity to 18.6 million tons by 1982; and
- construct the associated transportation and related facilities required to deliver the oil and gas products to the marketplace.

Exploration program

PEMEX's exploration program extends to 28 of the 31 States of the country, in addition to the Bay of Campeche in the Gulf of Mexico and the Pacific Ocean. PEMEX expects to drill 1,324 exploration wells between 1977 and 1982 or over twice the number of wells drilled during the previous 6-year period. Only 641 exploratory wells were drilled during the previous 6 years and 22 percent or 143 wells drilled resulted in successful oil and gas strikes. The PEMEX success rate increased during 1977 and 1978 when it sunk 162 exploratory wells, finding oil or gas in 58 of the wells for a success rate of about 36 percent.

In 1977, PEMEX began to exploit 60 potential oil-bearing geological structures located in an arc running out into the Bay of Campeche from 12 to 220 kilometers in waters running 15 to 100 meters deep. Fifteen exploration platforms were expected to be built in the Bay of Campeche during 1979. A U.S. Embassy official told us that, if current trends hold, PEMEX is expected to have a 75 percent success rate in finding hydrocarbons in the Bay of Campeche. PEMEX has also identified 110 promising geological structures that are located in the prolific Chiapas and Tabasco regions. In addition, PEMEX has found hydrocarbons in the Baja California area but discoveries to date are not considered to be of commercial value.

Production program

PEMEX announced in December 1976 that it expected to drill 2,152 development wells between 1977 and 1982. About 475 of the new development wells were expected to be drilled in the States of Chiapas and Tabasco and 120 on the continental shelf in the Bay of Campeche. In late 1978, PEMEX had about 181 drilling rigs operating and three drill ships, five jack-ups, 1/₁ and one semisubmersible rig in the Reforma

1/₁ Jack-ups are offshore platforms for operation in shallow water, usually at depths of less than 100 meters.

area and the Bay of Campeche. In 1977 and 1978, 458 development wells were sunk, of which 350 were productive oil and gas wells for a success rate of 77.4 percent. PEMEX's 1979 development program called for the drilling of 359 onshore wells and 50 offshore wells.

The bulk of PEMEX's production program is expected to be centered in the Reforma region in the States of Chiapas and Tabasco. These fields provide 68 percent of the total national production of crude oil and 42 percent of natural gas. PEMEX's production plans for the Bay of Campeche call for completion of 120 wells on 20 platforms. As of mid-1978, six platforms were being built by an American firm and six by PEMEX. The first 12 platforms were scheduled to be installed by the end of 1979. Drilling in the Bay of Campeche is done in water depths between 15 and 100 meters, with well depths between 3,500 to 5,000 meters. One U.S. official told us in January 1979 that total production for the offshore wells could range from 200,000 to 300,000 b/d by the end of 1979. Mexican press reports, however, suggested a significantly higher range of up to 500,000 b/d. U.S. officials have noted that, if current trends hold, most oil production growth will be offshore.

Crude oil production

PEMEX's original 1977-82 program called for production to increase from 908,000 b/d in December 1976 to 2.242 million in 1982. Domestic consumption was to account for 1.1 million b/d in 1982. Mexican officials subsequently said that this production goal would be achieved in 1980. Production reached an average of 1.3 million b/d in 1978 and was expected to average 1.6 million b/d in 1979. PEMEX announced in March 1980 that production had reached 2.07 million b/d. President Lopez Portillo also announced that Mexico's oil production will increase to between 2.5 and 2.7 million b/d by the end of 1980. Production was expected to increase to about 2.7 million b/d between 1980 and 1982. Production levels beyond 1982 are strictly conjectural as PEMEX has never announced production goals beyond 1982.

Gas production

Mexico's total gas production in 1976 was 2.1 billion cf/d. Approximately 765 million cf/d was flared or lost during processing. In March 1980, total gas production reached about 3.5 billion cf/d. Rising oil production during the remainder of President Lopez Portillo's term could sharply increase

the output of associated gas. Further development of nonassociated gas fields in northern Mexico could also further increase gas production. PEMEX's original 6-year plan called for gas production of 4 billion cf/d by 1982, of which 1 billion was expected to be available for export. PEMEX now expects to reach this goal by 1980. One U.S. agency projected that 1982 gross gas production will reach 4.7 billion cf/d. Domestic consumption is expected to be 3 billion cf/d and gas exports over 1 billion cf/d.

Refining program

Mexico refined an average of 890,000 b/d of products during 1978, an increase of about 21 percent over 1976. PEMEX operates five major and two minor refineries as shown by the map on the following page.

PEMEX's general refinery expansion program called for expenditures of about \$2 billion in this effort. Included are plans for five major new refineries. Official estimates on March 18, 1978, placed planned refinery capacity at 1.27 million b/d in 1980 and 1.67 million b/d in 1982, a doubling of refinery capacity over that of 1976. One U.S. agency estimates PEMEX refining capacity will be 1.36 million b/d in 1980 and 1.49 million b/d in 1982. Refining capacity is expected to exceed domestic needs by 17 percent in 1982 leaving an excess of about 250,000 b/d of refined products which might be used for exports.

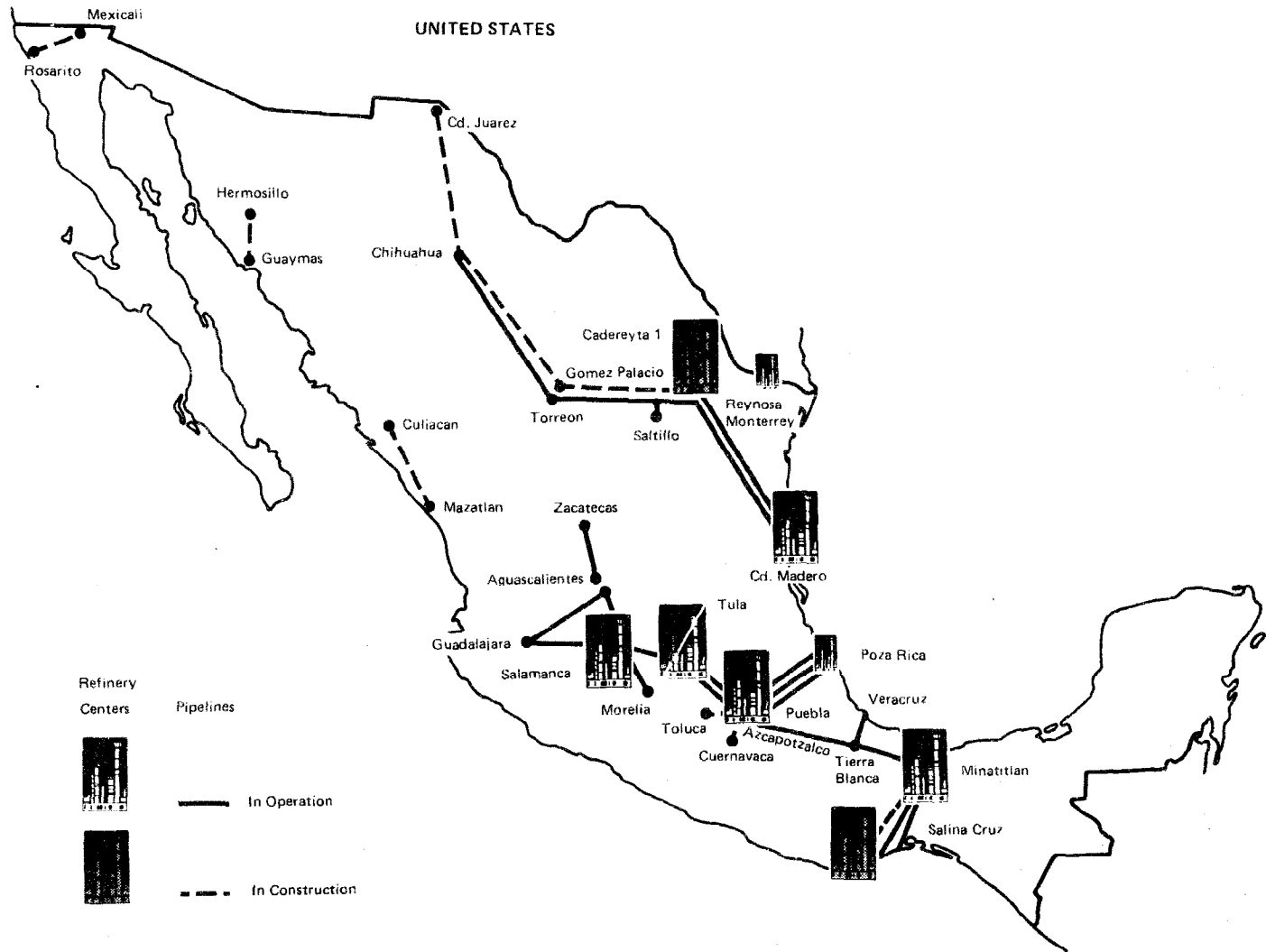
Petrochemical program

The petrochemical industry is expected to triple its capacity during the 1977 to 1982 time frame, from slightly over 5 million metric tons in 1976 to about 18 million metric tons in 1982. The 1982 goal for petrochemical capacity has since been increased to 21.7 million metric tons. An investment of \$2.4 billion will be required to increase production to 16 percent over domestic demand. As of March 1978, PEMEX was manufacturing 38 petrochemical products in 63 operating petrochemical plants. Another 37 plants were under construction and 39 others were being planned. According to the U.S. Embassy in Mexico City, production rose 11.3 percent in the first 7 months of 1979. Most of this increase came in secondary petrochemicals.

A U.S. Embassy official does not view Mexico's petrochemical industry as a threat to the United States because it is designed primarily for domestic use. He views the petrochemical industries in Mexico as being complementary to U.S. industry in that Mexico is emphasizing petrochemical production in those areas where the United States has shortages.

MAP 2

Refinery Centers and Pipelines



Transportation and related facilities

Due to the anticipated dynamic growth rate of Mexico's oil and gas industry, Mexico's plans call for a doubling in the transportation and related sectors to process and move the crude oil and gas produced to the consumer. During 1977, PEMEX completed construction on 14 major pipeline projects and had an additional 25 pipeline projects under construction. The most important crude oil pipeline is a 167 mile, 30-inch diameter line from Nueva Teapa, Veracruz, to the refinery at Salina Cruz, Oaxaca, on the Pacific Ocean. This line will allow Mexico to service its west coast and also opens up possibilities of exporting oil to countries in the Pacific Basin. The most important natural gas pipeline is the 850-mile gas line between Cactus, Chiapas, in the Reforma area to the U.S. border. The first phase of the project, from Cactus, Chiapas, to Monterrey, Nuevo Leon, a distance of 658 miles was completed in early 1979. The second phase of the project, extending the line from San Fernando to the U.S. border at McAllen, Texas, was terminated when Mexico and the United States failed to agree on a natural gas contract in the fall of 1977. PEMEX has since authorized a line and completed the necessary surveying to hook into the existing U.S. pipeline network at McAllen, Texas. The link to McAllen would take about 7 to 9 months to build, according to industry sources and would cost about \$300 million. Capacity of the line could be 2.7 billion cf/d with installed compressors. Maps on the pages 47, 48, and 49, obtained from PEMEX and executive branch records, show Mexico's oil and gas pipeline systems.

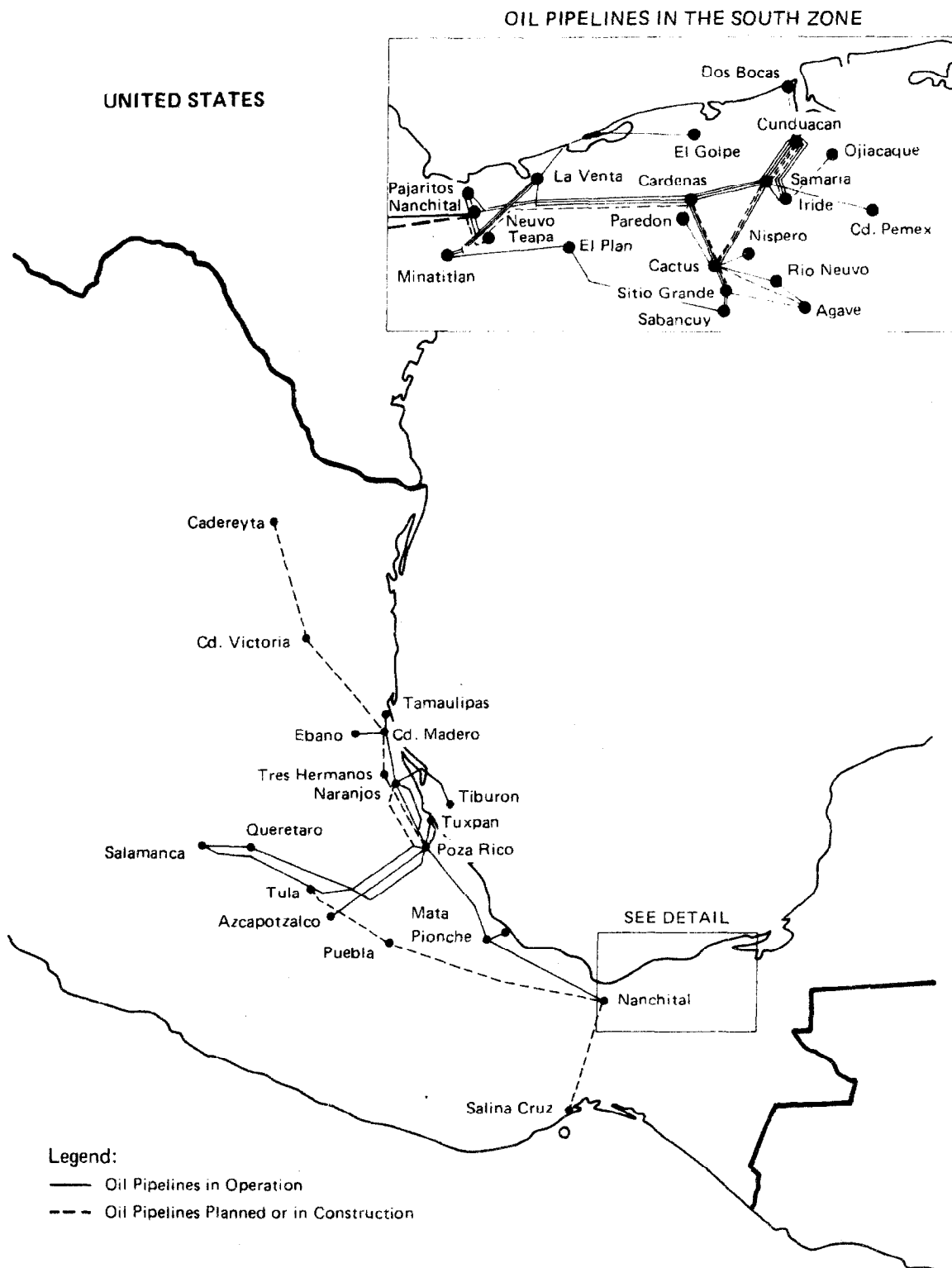
Besides building oil and gas pipelines, Mexico is also improving its port facilities. Mexico is building three export terminals at Salina Cruz, Dos Bocas near Villahermosa, Tabasco and at Pajaritos, Veracruz. When improvement in Mexico's port facilities is completed, scheduled for the early to mid-1980s, Mexico will have a port facility capacity in excess of 5 million b/d. Increasing port facility capacity to handle super-tankers will improve Mexico's ability to sell its oil in foreign markets.

RESERVE-TO-PRODUCTION RATIO

The reserve-to-production ratio is one way of measuring how many years it will take to use up a nation's known reserves of oil and gas. In 1975, Mexico's reserve-to-production ratio was 14 to 1; that is, 1975 proven reserves of oil and gas at 1975 production and consumption levels would last 14 years. In 1976, Mexico's reserve-to-production ratio increased to a ratio of 25 to 1 and in 1979 was placed at 60 to 1. As of December 31, 1978, the U.S. reserve-to-production ratio was 9 years.

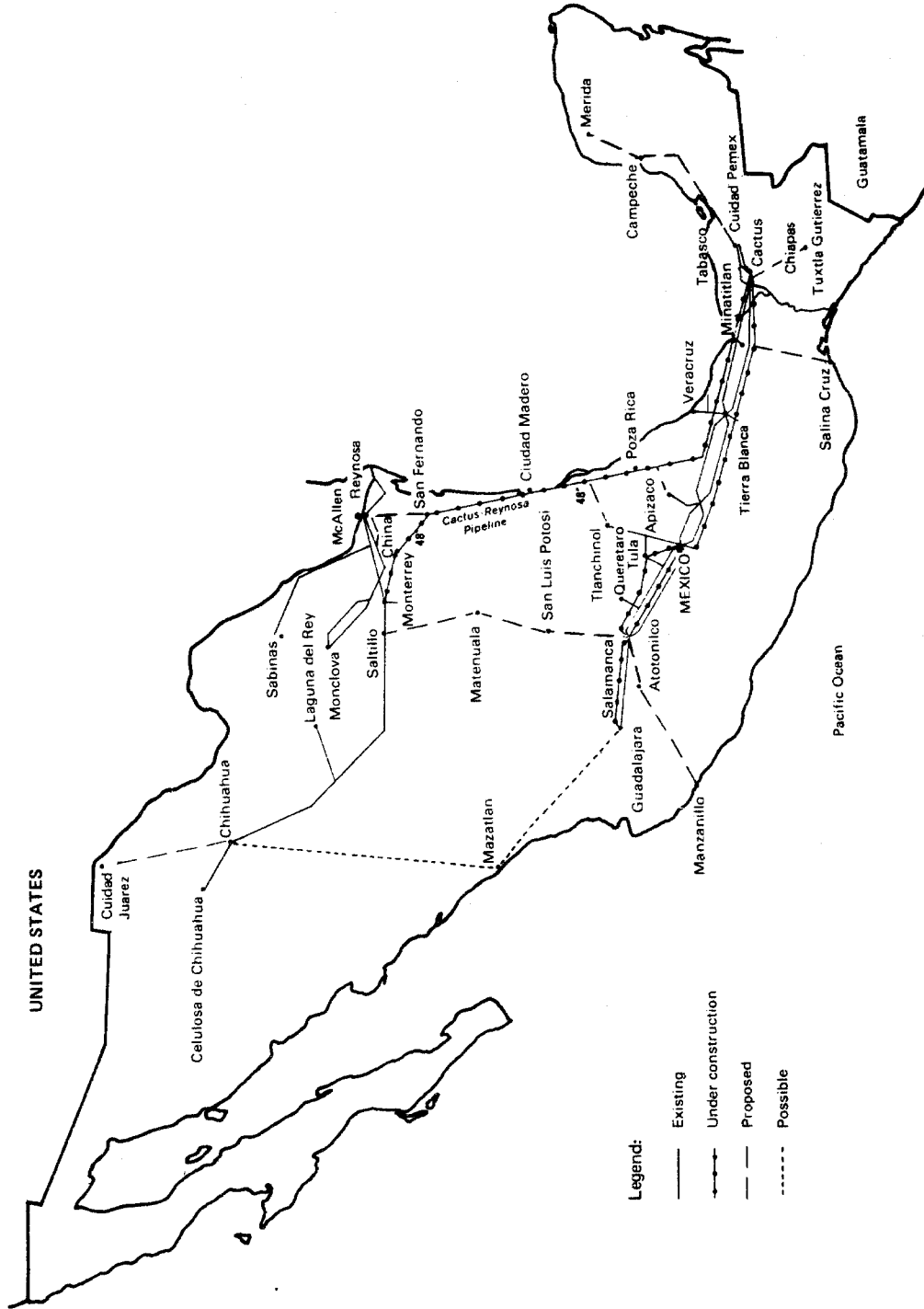
MAP 3

Oil Pipeline System



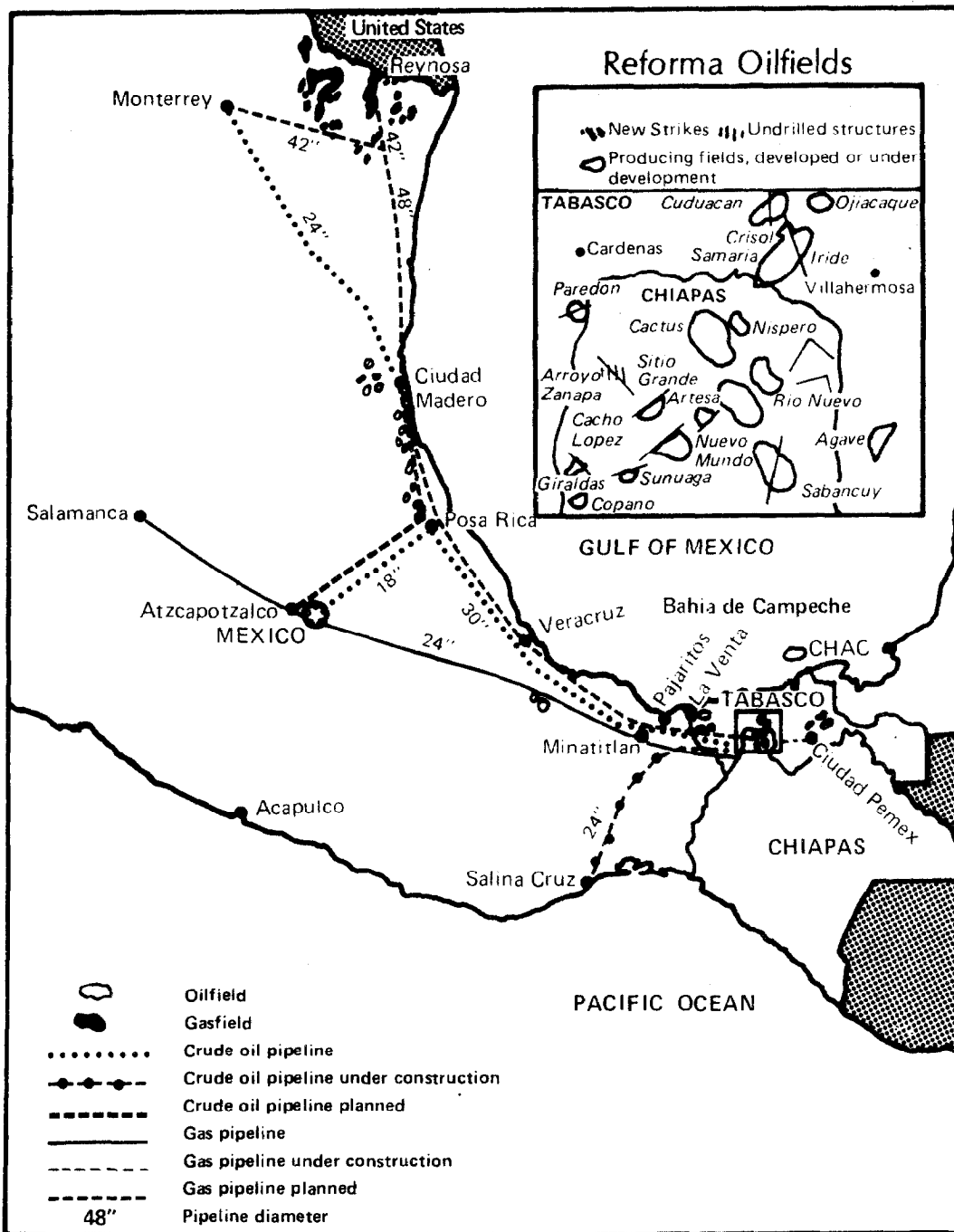
MAP 4

Natural Gas Trunkline System



- Legend:
- Existing
 - - - Under construction
 - · · Proposed
 - - - - Possible

Natural Gas Pipeline Construction



CHAPTER 5

ENERGY POLICYMAKING IN MEXICO

Although PEMEX is responsible for exploring, developing, and producing Mexico's oil and gas reserves, responsibility for establishing and coordinating all facets of Mexico's energy policy is assigned to the Secretariat of Patrimony and Industrial Development. In addition, the Mexican National Energy Commission, established in 1973, is a forum for GOM energy agencies to discuss common problems, coordination, and national energy policy. It studies the use of oil, water, coal, and other energy resources. The National Energy Commission includes representatives from the Ministries of Commerce, and Patrimony; PEMEX; the Federal Electricity Commission; the National Institute for Nuclear Energy; Agriculture; and Water Resources.

The ultimate responsibility for setting Mexico's energy policy rests, of course, with the President of Mexico and the Director-General of PEMEX, who is responsible for the daily operations of PEMEX. The President takes a strong personal interest in energy decisions because of the role oil and gas is expected to play in Mexico's future.

MEXICO'S PETROLEUM POLICY

The series of oil and gas discoveries verified in a U.S. consultant's report in April 1977 (as discussed in ch. 2 of this report) and Mexico's increasingly favorable reserve-to-production ratio, resulted in worldwide attention and conjecture about its production and export capabilities in the years ahead. USG observers have predicted Mexico's oil production could reach as high as 5 million b/d by 1990. Mexican officials, however, have been concerned over the negative impacts of too rapid an oil development program on Mexican society.

The Director-General of PEMEX summed up Mexico's general petroleum policy in March 1978:

- export sales will not be allowed to endanger Mexico's reserve-to-domestic needs ratio;
- Mexico will sell products as long as it can absorb the increased income; and
- all sales will be in excess of Mexico's domestic needs.

Mexico's oil production and export policy

Mexico's oil exports have increased from 98,000 b/d in 1976 to an expected daily average of about 600,000 b/d in 1979. The United States received about 80 to 90 percent of Mexico's exports in 1979. PEMEX has stated that oil exports will reach 1.1 million b/d in 1980. As noted in chapter 4, President Lopez Portillo made no official statement regarding export levels between 1980 and 1982, the last 2 years of his 6-year term. Mexico's production and export policy beyond 1982 will be determined by President Lopez Portillo's successor. In his 1979 State of the Nation report, President Lopez Portillo continued to be silent regarding 1980-82 export levels.

USG estimates of Mexico's crude oil and product exports in 1982 and beyond have varied widely in the last few years. In testimony before the Senate Committee on Energy and Natural Resources on January 17, 1979, then DOE Secretary Schlesinger said he expected Mexico would be producing about 4.5 million b/d by 1985. He warned, however, that President Lopez Portillo's successor will be reviewing Mexico's oil and gas program in 1982.

Differing estimates of Mexico's petroleum production and export capabilities are based on different scenarios which in turn result from a number of assumptions regarding Mexico's economic and technical capabilities, primarily:

- internal domestic energy consumption,
- technical ability to expand hydrocarbon production, and
- impact of oil revenues on the Mexican economy.

According to U.S. officials, oil demand in Mexico rose about 7 percent in 1976 and 1977, and about 10 percent in 1978 and 1979. One U.S. official told us a 1-percent growth in Mexico's gross national product has resulted historically in a 1.2-percent increase in oil consumption.

Historically, Mexico has achieved an economic growth rate of about 6 percent. USG observers, however, have told us that Mexico, in order to avoid inflation and balance-of-payment problems, cannot expand its economy more than 7 to 8 percent a year in the 1980s. Assuming a growth rate of 8 percent, domestic oil consumption could increase 9.6 percent a year and reach about 1.84 million b/d by 1985. USG estimates regarding Mexico's domestic consumption have ranged between 1.2 and 2.8 million b/d in 1985.

U.S. officials told us, however, it is possible that Mexican oil consumption could grow so rapidly that virtually all production in the 1990s could be consumed domestically. They also predict that once Mexico's export level reaches 1 million b/d, all further production could be for domestic consumption. Using the same scenario of an 8-percent growth rate, U.S. officials predict that Mexico could be consuming between 5 and 7 million b/d in the 1990s. A factor that has encouraged increased consumption is government subsidization of oil and gas prices. Mexican utilities, for example, are only charged the equivalent of 23 cents per mcf and other industries are charged 34 cents per mcf of natural gas.

Technically, Mexico appears to have the expertise and ability to handle increasing production. The scientific and technical expertise PEMEX has obtained since 1938 in exploration, production, and developing its reserves has left it quite capable in exploring and developing its reserves. PEMEX also augments its efforts by contracting for technical expertise and equipment from foreign companies.

Although USG experts have generally agreed that there are no major technical constraints which would prevent Mexico from increasing its rate of production in the future, Mexico does have immediate technical problems to overcome. For example, a U.S. agency study in October 1978 reported there was no technical reason preventing Mexican oil production from rising to about 5 million b/d in 1985. Mexico has enough drilling rigs to achieve a rate of production of 4.6 million b/d in that year. Moreover, additional rigs could easily be obtained to reach a production level of 5 million b/d. According to the USG study, a more serious technical constraint on oil production is the purchase and installation of natural gas processing equipment to separate and process the gas being produced in association with the oil. Additional gas processing equipment must be ordered by 1980 to avoid flaring increasing levels of gas starting in 1982. The most serious technical constraint on Mexican oil production according to the study is determining how to use the associated natural gas.

Concerns have also been raised over whether Mexico has enough skilled personnel and equipment to adequately drill in the Reforma area. Drilling in the Reforma area is difficult because of the complex geology of the area. U.S. officials told us that because of the lack of skilled personnel and equipment, only 60 to 65 percent of targeted drilling has been completed in the Reforma area. Equipment shortages were also cited by U.S. officials as the main reason for PEMEX's failure to reach full planned production during

the first half of 1978. During the first 6 months of 1978, PEMEX fell 6.8 percent behind its production schedule and 19.6 percent behind in crude oil exports. U.S. officials told us that Mexican oil production is being estimated to fall short of its projected 1979 target of 1.84 million b/d, averaging better than 1.6 million b/d. PEMEX, however, has announced that it produced 2.07 million b/d in March 1980.

Industry sources feel that PEMEX, from a technical standpoint, needs assistance in developing offshore areas and in secondary petrochemical production. They also said Mexico is weak in design engineering, design technology, and overall management. PEMEX has contracted with U.S.-based companies to overcome these deficiencies. For example, PEMEX is purchasing a software capability from a U.S. company to help them develop and implement an overall energy management information system.

In addition to these technical constraints, decisions by the GOM on future oil production levels will also be influenced by the impact oil revenues will have on Mexico's economy. Mexican officials want to ensure that foreign exchange earnings are spent in an effective and noninflationary manner with minimum impact on the social and political stability of the country. Mexico has developed a comprehensive economic development plan to utilize these earnings. Another factor which could influence Mexican oil production decisions is the recent round of crude oil price increases. The increase announced in January 1980 for Mexico's oil price--from \$24.60 to \$32.00 a barrel--along with potential future price increases, could result in Mexico lowering its level of oil exports while still achieving the same level of revenue earnings.

Mexico's gas production and export policy

Estimating future production and export levels for natural gas is even less certain than it is for oil. The original PEMEX program called for Mexican production to reach 4 billion cf/d by the end of 1982. ^{1/} Estimates depend on (1) the different scenarios regarding future oil production levels and (2) uncertainties over future levels of associated gas production and the success of Mexico's gas-for-oil substitution program.

^{1/}Revised PEMEX forecasts indicate this goal will be reached in 1980.

The eventual level of associated gas in the Reforma area and offshore in the Bay of Campeche will not be known until further drilling is completed. Another factor influencing future levels of associated gas production is Mexico's ability to exercise its option of "shutting in" production in fields with high gas-to-oil ratios and by developing nonassociated oil wells. In his 1979 State of the Nation report, President Lopez Portillo announced that exploitation of nonassociated gas has not been promoted and that associated gas utilization was being maximized. He also announced that associated gas production had reached 2.3 billion cf/d in 1979, 34 percent higher than daily levels in 1978. As of March 1980, total gas production--associated and nonassociated--reached 3.5 billion cf/d.

After the United States and Mexico were unable to agree on a natural gas contract in 1977, Mexico announced in 1978 a nationwide program to expand domestic usage of gas, substituting natural gas for oil, thereby, freeing up additional supplies of displaced oil for the international market.

Studies have shown that the greatest potential for Mexican gas usage lies in increased consumption in the industrial sectors. There is an extensive gas transmission and industrial distribution system already in place covering 7 of the 10 economic regions of the country and 80 to 90 percent of the demand centers. Power plants and industrial users can be converted to gas. Gas, as a source of energy for petrochemical production, a major energy user, will be increased. Refineries can also be upgraded to reduce the yield of heavy fuel oil, and increase the production of low sulfur fuel for export and lighter products for domestic consumption.

Other options open to Mexico for using its gas include reinjecting the gas into producing reservoirs, exporting the gas by ship in a liquid form, or exporting the gas through a pipeline.

U.S. officials have told us that Mexico has been successful in using more gas domestically than had been originally expected. Mexico's domestic gas consumption has grown phenomenally since 1977, at a rate of over 20 percent per year. Domestic consumption should continue to grow rapidly as the distribution system is completed.

MEXICO'S PROGRAM TO EXPAND ITS FOREIGN OIL MARKETS

A major goal of President Lopez Portillo's oil policy has been to diversify Mexico's foreign oil markets. As

shown by the following table, over 86 percent of Mexico's crude oil exports went to the United States in 1978. Eighteen other countries have also purchased limited amounts of crude oil, petroleum products, and petrochemicals from Mexico.

TABLE 5

Mexican Exports of Crude Oil and Derivatives: 1978

<u>Country</u>	<u>Percent</u>
United States	86.8
Israel	5.8
Spain	4.0
Canada	.6
Brazil	.4
Netherlands	.3
Italy	.3
El Salvador	.3
Japan	.2
Puerto Rico	.2
Costa Rico	.2
Ecuador	.2
Sweden	.2
Belgium	.1
Turkey	.1
Finland	.1
Great Britain	.1
Guatemala	.05
Tunisia	.05
	<u>100.00</u>

Source: Mexican Embassy, Washington, D.C.

Regardless of the success of Mexico's diversification program, U.S. Embassy officials in Mexico City told us the GOM has stated that it expected 60 percent of its future crude oil and refined products to go to the United States, 20 percent to Europe and Israel, and 20 percent to Japan. In the past, the transportation costs associated with its oil has limited Mexico's ability to sell oil to countries other than the United States. Mexico has had some success, however, in reaching agreements with some countries and has held discussions with several others. Continued commitments by Mexico to other countries could result in Mexico reducing oil exports to the United States to below 60 percent.

Although our information is incomplete concerning the status of Mexican oil agreements with other countries, various sources indicate that Mexico has

- signed provisional contracts with France, Japan and Spain calling for Mexican exports of 100,000 b/d to each country beginning in 1980;
- discussed long-term supply contracts with Brazil, Argentina, and Uruguay; and
- discussed with Bulgarian officials, the possibility of importing Mexican crude, refining it, and reshipping a portion of it to Greece, Turkey, Yugoslavia, and Rumania.

MEXICO AND OPEC

The former Secretary of National Patrimony and Industrial Development said in May 1976, that Mexico was:

"* * * solidly with OPEC, we are solidly with the policies of the organization of producing and exporting petroleum countries, and that if the member countries of the OPEC organization consider it suitable for them that Mexico enter, we accept immediately."

Under President Lopez Portillo's leadership, however, Mexico has not expressed a desire to join OPEC. PEMEX's position is that Mexico sympathizes with the goals of OPEC but is unlikely to join the organization. One U.S. official told us that because Mexico charges a price higher than that set by OPEC, it is more advantageous for Mexico to remain outside OPEC. By remaining independent, Mexico can continue to enjoy the benefits of high world oil prices without subjecting itself to possible pricing or production restrictions imposed by the OPEC organization.

Although it appears unlikely that Mexico will join OPEC, it is also unlikely that its oil production will break the hold of the OPEC nations on the price of oil. Mexico's policy has been not to sell on the spot market; however, Mexico raised the price for its crude oil in October 1979 and again in January 1980 at a level higher than OPEC prices. In addition, Mexico's oil production levels are unlikely to rise in the near future to the levels necessary to significantly influence OPEC pricing decisions.

PETROLEUM AND MEXICO'S DEVELOPMENT PROBLEMS

Prior to 1973 and 1974, Mexico had enjoyed almost 2 decades of continuous economic growth and relative price stability. The recession brought on by the 1973 oil embargo, along with Mexico's policy of protecting its industry from foreign imports, however, combined to slow its average annual growth rate from a rate of between 6 and 7 percent since the 1950s to about 2 percent in 1976 and 3 percent in 1977. At the same time, Mexico began experiencing a growing balance of payments deficit. By the time President Lopez Portillo entered office in December 1976, the yearly inflation rate had climbed to over 20 percent, the peso had been allowed to devaluate by 50 percent, and the country lacked clear economic direction.

President Lopez Portillo set out to correct these shortcomings when he announced three consecutive 2-year programs to regain confidence in the economy. Programs during the first 2 years were designed to overcome the economic problems, the second 2 years were devoted to consolidating the economic gains made during the first 2 years, and the remaining 2 years were to become a period of economic growth.

The exploitation of Mexico's hydrocarbon reserve discoveries holds the promise for accomplishing President Lopez Portillo's development goals. The Director-General of PEMEX said:

"* * * this (petroleum) wealth makes it possible to see the future and the creation of a new country, not only permanently prosperous, but even rich, where the right to work will be a reality and whose remunerations will allow in general a better style and better quality of living."

However, Mexico's exploitation of its large hydrocarbon reserves may have a mixed impact on its economy. On the one hand, export earnings from the sale of crude oil, natural gas, and refined products will provide Mexico with the revenue needed to meet the needs of its people. Mexico could utilize export revenues generated from hydrocarbon exports to create and expand employment in the agricultural, industrial and tourism sectors. Yet, on the other hand, a large sudden influx of petro-dollars into Mexico could drive inflation up even higher, cause Mexico to become overly dependent on petroleum exports over its other export commodities, and create social and political unrest if the needs of the population are not met.

The GOM is extremely sensitive to the impact on the social structure of too rapid an oil development program. Mexican policymakers are also well aware of the development problems experienced by other oil-dominated countries such as Venezuela and Iran. The economy's ability to absorb oil and gas revenues, therefore, has been an important factor in determining production and export levels.

Mexico has significant advantages over other oil boom countries in trying to manage the effects of oil revenue absorption because of its substantial economic infrastructure. Thirty percent of its labor force is in manufacturing, construction and transportation; another 30 percent is in trade- and service-related industries; and about 40 percent in agriculture. Mexico also has skilled manpower, some port capacity, and experience at economic planning.

Nevertheless, according to U.S. officials, Mexico's recent economic growth has led to and been constrained by bottlenecks in its transportation system. In early February 1979, for instance, 39 vessels with more than 200,000 tons of grain and equipment shipments for PEMEX were reported to be awaiting berths at four Mexican ports. Costs for idle time were estimated to be between \$155,000 and \$195,000 a day. The congestion was attributed to overloaded port and rail systems incapable of coping with increasing PEMEX shipments and other commercial movements. An insufficient number of locomotives and rolling stock and shortages in other areas like trucks and cement production have also forced some Mexican industries to operate at a reduced capacity.

A number of new policies were initiated by President Lopez Portillo and his predecessor, President Luis Echeverria, to help achieve internal development needs and a general stabilization and improvement in Mexico's economic situation. One important program is Mexico's national rural development scheme. Established in 1973, this program is designed to improve agricultural production and raise incomes of some 5 million farmers.

However, development problems facing Mexico are immense. The population growth rate, down from 3.5 percent a year, still averages about 2.8 percent a year, and the current population of approximately 67 million people is expected to grow to 100 million by the year 2000. The Mexican Ambassador to the United States has stated that he sees Mexico's population growth as his country's main internal problem.

An overall goal of Mexico's economic policy is to create jobs. The unemployment/underemployment rate is

about 50 percent. Approximately 800,000 new workers enter the labor force each year and compete for the 150,000 jobs coming available each year. The remaining potential workers join the ranks of the unemployed which is estimated to be about 10 percent. Some of these potential workers illegally emigrate across the border to the United States where they join the ranks of several million undocumented Mexican aliens already residing in the United States. The Mexican Ambassador to the United States said it was Mexico's goal to solve the undocumented alien problem within the next 20 years.

One senior U.S. official told us that a key in stimulating Mexico's economic growth rests with developing an industrial foundation and allowing for increased growth of imported goods at competitive prices. He said that Mexico will have to allow increased levels of imports to enter the country if it expects to overcome domestic shortages and meet the demands of its people for manufactured goods. Mexico will also have to invest in labor-intensive industries, such as light and medium industry in addition to developing its oil and gas industry--a capital-intensive industry.

Productivity in the agricultural sector also remains a significant problem. Although Mexico had a favorable balance of agricultural trade at the end of 1977, agricultural output has increased slowly over that of 10 years earlier. Mexico has, therefore, been forced to import food to feed a growing population. According to the U.S. Embassy in Mexico, imports of basic food stuffs have been increasing rapidly.

The GOM program to increase agricultural production and productivity is entitled the National Agricultural Plan. The Plan's goals, announced in April 1978, are to increase investment and the use of machinery, correct erosion problems, begin production in new lands, provide more and easier credit, improve the quality of seeds, provide more crop insurance, encourage the use of more fertilizers, and begin several pilot projects in humid tropical areas. The Government is trying to encourage more domestic and foreign private investment in agriculture and agro-industry projects.

During the course of this review, we talked to USG officials who generally believe that the problems of absorptive capacity will be the primary constraint on Mexico's ability to expand oil and gas production, not capital, technology, or labor requirements. Mexico has not experienced any difficulty in securing loans even though its official total foreign indebtedness at the end of 1978 was \$26 billion. Private external debts

are believed to be at least \$5 billion. An indication of how Mexico will invest the oil and gas revenues was provided by President Lopez Portillo in his September 1978 State of the Nation address when he said that taxes on oil revenues would be administered through a separate budget and would be used for three types of projects,

- those aimed at expanding existing economic foundations, which have the most rapid payoff;
- new economic foundation projects that tend to improve the standard of living, particularly among the needy; and
- technical and research projects that spur industrial and rural development.

The President also said oil revenues would not be used for repayment of external debt, foreign investments, relaxation of taxes, or nonproductive subsidies.

The GOM issued a 10-year National Industrial Development Plan in the spring of 1979, which generally outlines how oil revenues will be spent. The Mexican Embassy's Minister of Economic Affairs told us the Plan called for more petrochemical plants, expansion of industries, and decentralization of industry. U.S. officials told us they felt the plan is a general guide for investing oil revenues and seems to favor capital-intensive rather than labor-intensive industries. The GOM, however, is developing an overall economic plan which will utilize oil and gas revenues in other sectors of the economy. According to State Department officials, various ministries in the GOM have prepared plans for their sectors of the economy. These plans are to be coordinated through a Global Development Plan which is still in preparation.

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THE WHITE HOUSE
WASHINGTON

April 26, 1979

MEMORANDUM FOR: THE SECRETARY OF STATE
THE SECRETARY OF THE TREASURY
THE SECRETARY OF DEFENSE
THE ATTORNEY GENERAL
THE SECRETARY OF THE INTERIOR
THE SECRETARY OF AGRICULTURE
THE SECRETARY OF COMMERCE
THE SECRETARY OF LABOR
THE SECRETARY OF HEALTH, EDUCATION
AND WELFARE
THE SECRETARY OF ENERGY
THE ADMINISTRATOR OF THE AGENCY
FOR INTERNATIONAL DEVELOPMENT
THE DIRECTOR OF THE OFFICE OF
MANAGEMENT AND BUDGET
THE ASSISTANT TO THE PRESIDENT FOR
NATIONAL SECURITY AFFAIRS
THE ASSISTANT TO THE PRESIDENT FOR
DOMESTIC AFFAIRS AND POLICY
THE DIRECTOR OF THE OFFICE OF SCIENCE AND
TECHNOLOGY POLICY
THE SPECIAL REPRESENTATIVE FOR TRADE NEGOTIATIONS

FROM: THE PRESIDENT

SUBJECT: Coordination of United States policy
toward Mexico

J.C.

In view of the increasing domestic and international importance of our relations with Mexico, and of the intensity and complexity of those relations in the years ahead, I have decided to take steps to improve our ability to address effectively all issues which affect U.S. relations with Mexico.

To ensure that all U.S. policies toward Mexico, and all actions directly or indirectly affecting Mexico, promote basic U.S. national interests and are consistent with our overall policy toward Mexico, I ask:

- that each of you accord a high priority to any and all matters within your jurisdiction affecting Mexico, consciously giving good relations with Mexico a continuing high priority in your thinking and planning; and

- that all proposed actions, which have an effect on Mexico, be carefully coordinated so as to be consistent with overall U.S. policy toward Mexico, and based on the fullest possible prior consultation with the Government of Mexico.

To achieve this fundamental Administration-wide objective of establishing a sound, long-term relationship with Mexico, I hereby direct the following measures:

1. U.S. Coordinator for Mexican Affairs

I am nominating Robert Krueger as Ambassador-at-Large and United States Coordinator for Mexican Affairs to assist me and the Secretary of State in the development of effective national policies toward Mexico and in the coordination and implementation of such policies. Mr. Krueger will also serve as Chairman of a new Senior Interagency Group on U.S. policy toward Mexico and as U.S. Executive Director for the U.S.-Mexico Consultative Mechanism.

As U.S. Coordinator, he will be responsible for ensuring that U.S. policies toward Mexico, and all other U.S. activities which affect Mexico, are developed and conducted in a coherent, flexible manner and are fully consistent with our overall policy objectives towards Mexico. More specifically, Mr. Krueger will be responsible, to the fullest extent permitted by law, for:

- Development and formulation of United States policy toward Mexico;
- Review and coordination of any and all U.S. Government programs and activities that affect U.S.-Mexican relations, whether directly or indirectly;
- Management of U.S. participation in the working groups established under the U.S.-Mexico Consultative Mechanism, ensuring also that any existing overlapping entities are integrated into the process or altered as may be necessary to avoid duplication;
- Advice to myself, the Secretary of State and other Cabinet officers and Agency Heads and the U.S. Ambassador to Mexico on the effects of contemplated actions by any agency of the Government on our relations with Mexico; and,
- Initiation of reports and recommendations for appropriate courses of action, including periodic reports to me on major developments and issues.

The Coordinator will be located in the Department of State. The Director, Office of Mexican Affairs, Department of State, will serve as Deputy Coordinator. The Coordinator's staff may include personnel assigned on non-reimbursable details from other agencies and departments.

2. Senior Interagency Group on U.S. Policy Toward Mexico

I am establishing a Senior Interagency Group on U.S. Policy towards Mexico to be chaired by the U.S. Coordinator, to assist in the development, review and coordination of U.S. policies toward Mexico and other U.S. activities or policies which might affect U.S.-Mexican relations. Committee members will include representatives from: Agriculture, Commerce, Defense, Energy, Interior, Justice, Labor, State, Treasury, Agency for International Development, Office of the Special Representative for Trade Negotiations, National Security Council, Domestic Policy Staff, Office of Science and Technology Policy and other agencies as necessary. Representation will be at the level of Assistant Secretary or above. I ask that you designate promptly the senior official who will serve as your representative on the Interagency Group and that you take a personal and continuing interest in these matters.

3. Consultation

The first and most important agreement the President of Mexico and I recently reached was to consult closely in the development and implementation of all policies and activities affecting both countries.

It is my firm intention to meet this commitment. The primary instrument will be the U.S.-Mexico Consultative Mechanism, which President Lopez Portillo and I agreed to strengthen. The Secretary of State will continue to chair the Consultative Mechanism for the United States. The new Coordinator will serve as its Executive Director.

To rationalize our work and assure that all issues are addressed in timely fashion, we have agreed with the Government of Mexico to restructure the Consultative Mechanism, based on eight joint working groups, at the sub-Cabinet level, covering: Trade, Tourism, Migration, Border Cooperation, Law Enforcement, Energy, Finance-Industry-Development, and Multilateral Consultations. The Mixed Commission on Science and Technology will also function under the Consultative Mechanism. Secretary Vance has been in touch with you directly on plans for organizing and implementing these working groups.

* * * * *

I ask that you provide full cooperation and assistance to Secretary Vance and Mr. Krueger in carrying out their responsibilities. The strengthening of policy coordination, and of U.S. relations with Mexico, is an important domestic as well as foreign policy priority.







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