Energy Policy in the NAFTA

Andrew R. Laudenslager
Lehigh University

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Overview

The North American Free Trade Agreement (NAFTA) will combine three major powers of the world’s energy market into one economic unit. These three, Canada, Mexico and the U.S., will lower their trade barriers in an effort to improve economic development.

Currently, Mexico’s constitution contains significant barriers to foreign investment in Mexico’s energy sector. The NAFTA will remove some of these barriers, creating opportunities for increased trade, especially with the U.S. Because Canada and the U.S. already have a free trade agreement, and because the distance between Canada and Mexico makes trade of energy and energy products unfeasible at this time, Canada is the least affected by the NAFTA.

The energy sector includes the exploration, exploitation, refining, and distribution of natural resources used to produce energy. It includes the generation and distribution of electricity and a large portion of petrochemicals. The energy products most affected by the NAFTA include electricity, natural gas, petroleum and its derivatives. There is little trade in electricity produced by coal, nuclear, wind and hydro power in the trilateral area; therefore, these energy sources do not mandate significant attention. For example, in Mexico the sum of coal, hydroelectric, geothermal, firewood and sugarcane power accounts for less than ten percent of total energy production. (Annual Petroleum Report, p. 27) Nuclear energy is also a small source in Mexico. However, under the provisions of the NAFTA, all aspects of nuclear energy in Mexico are subject to the complete control of the Mexican government. As a result, trade in nuclear energy technology (a “strategic activity,” according to the NAFTA text) will appear only under the exceptions of the NAFTA. What is important is who extracts and processes the hydrocarbon natural resources and who distributes and receives them.

Because Mexico’s political history plays such a significant role in the negotiations of the NAFTA, I will examine this subject first. I will then follow with a discussion of each of the important energy industries that will be affected by the agreement.
Mexico's History and Its Role in the Negotiations

Historically, Mexico has viewed oil as an "inalienable" natural resource; its ownership and exploitation are a source of national pride. This nationalistic sentiment has hindered attempts to open Mexico's petroleum industry to direct foreign investment which in turn delayed completion of the NAFTA text.

In Mexico's 1917 Constitution, Article 27 reserves the subsoil rights exclusively for Mexican citizens. However, between 1917 and 1938 these constitutional provisions were minimally enforced. Consequently, when foreign ownership became an issue in the 1920s and 1930s, it was unclear whether the Constitution required confiscation of foreign property or whether firms established in Mexico prior to 1917 could continue to operate. In fact, American, British, and Dutch oil companies actually increased their investments in Mexico in the 1920s and transformed the country into a major oil producer and exporter. (Hufbauer and Schott, p. 187) Conflicts over the subsoil rights and labor issues strained relations between the Mexican government and the foreign oil companies (mostly U.S. and British) on a continuing basis. The Mexican government insisted on many changes in the foreign companies' operations. For example, in 1931 Mexico enacted a labor code that required that ninety percent of all foreign oil companies' employees be Mexican, that Mexicans be trained to replace foreign technicians, and that unions be allowed to inspect the accounts of any commercial enterprise. (Riding, p. 159) After court appeals and considerable debate between the foreign oil companies and the Mexican government, on March 18, 1938, President Lázaro Cárdenas expropriated all seventeen of the American and British oil companies for their "arrogant and rebellious attitude." (Riding, p. 160) Relations between Mexico and Britain and the U.S. were strained until World War II when an agreement settled the expropriations with payments to the affected companies, although the payments did not dispel fears of Great Britain and the U.S. re-investing in Mexico nor did the settlement reduce the degree to which Mexicans covet their oil. The nationalistic feeling for oil remains strong, and Mexican citizens still celebrate the anniversary of the expropriation of the oil industry as a "day of national dignity." (Hufbauer and Schott, p. 188)

The chief purpose of the Mexican petroleum industry until 1976 was to achieve energy self-sufficiency for the country. To this end, Petróleos Mexicanos, or Pemex, was established on June 7, 1938. Although it started with outdated machinery from the expropriations, after one year production was nearly up to the levels the foreign companies had achieved. Pemex's prominence in the world market was not noteworthy, however, until the 1976 discovery of a major oil field in the Bay of Campeche. By its size alone, this huge field helped Pemex to become a world class oil company. (Riding, p. 165)

In addition to increasing Pemex's revenue, the Campeche field discovery gave hope of world economic prominence to Mexico. Anticipating the exploitation of its newly found petroleum reserves, Mexico borrowed heavily from foreign sources to finance economic development. Between 1976 and 1980, Mexico's petroleum production nearly tripled from less than one million barrels per day to 2.7 million barrels per day. However, the government spent the oil boom revenues of the late 1970s unwisely and, instead of improving its economic state, created a massive debt. Then in 1982 falling oil prices, coupled with the debt crisis, caused the oil industry to lose much government backing. Because the oil market fluctuates so much, Mexico has sought to diversify its economy so that it does not rely solely on oil.

To make up for waning support from the government, in 1989 Pemex created Petróleos Mexicanos International (PMI) as the marketing agent for its crude and refined oil products. PMI has greatly increased the efficiency of Pemex, saving over sixty million dollars per year. Much of this gain has come from changing Pemex's supply strategy. In the past it shipped domestic products produced in the Gulf of Mexico to the Pacific coast. Today, Pemex sells surplus products produced in the Gulf of Mexico to external buyers and buys products needed on the Pacific coast from outside sources. (Annual Petroleum Report, p. 18) This supply strategy saves considerable transportation costs.
Despite its decrease in funding to the petrochemical industry, Mexico has initiated new policies for creating a more efficient and ecologically sound energy industry. For example, in 1988 Pemex began changing its fleet of tanker trucks to load from the bottom rather than the top. Pemex estimates that this modification saves at least three percent of each load of gasoline which was formerly lost to evaporation. (Annual Petroleum Report, p. 17) As a move toward environmental responsibility, on March 18, 1991, President Salinas ordered the closure of a refinery to reduce air pollution in Mexico City. This unprecedented closure was probably the first closing in the world of a refinery for ecological purposes. (Annual Petroleum Report, p. 10)

In the wake of the April 1992 gas line explosion disaster in Guadalajara, President Salinas restructured Pemex in an effort to increase safety and efficiency. He subdivided Pemex into four independent companies and retained Pemex as the parent company. The subsidiaries are Pemex Exploration and Production, Pemex Refining, Pemex Gas and Basic Petrochemical, and Pemex Petrochemical. Mexico prohibits private investment in the first three because they are closely related to crude petroleum, but encourages it in Pemex Petrochemical which uses derivatives of crude oil.

As part of its restructuring, Pemex fired and laid off many of its employees despite their being members of the Petroleum Workers Union. Professor Sebastian Guzman, the Secretary General of the Petroleum Workers Union, continues to support the drastic personnel reductions at Pemex in an effort to sustain the company. However, these reductions have caused angry protests and marches. While visiting Mexico City in August 1992, I witnessed a protest in Mexico City’s zócalo, or center square, by hundreds of Pemex workers, furious at being fired. In an effort to improve living conditions for the remaining employees, Pemex has pledged to build 5,000 houses for its employees each year during the Salinas sexenio, or six year presidential term, in order to alleviate the problems of sub-standard housing and workers having to live at great distances from their families. (Annual Petroleum Report, p. 13)

The NAFTA and the Electricity Industry

The U.S. and Canada have efficient and effective electricity-producing industries and have been trading partners in electricity for many years. During the 1980s, Canada exported, on average, eight times as much electricity per year to the U.S. as the U.S. exported to Canada. (Hufbauer and Schott, p. 202) The implementation of the U.S.-Canada Free Trade Agreement (FTA) equalized and eliminated tariffs and consequently caused a drastic change in the balance of trade. Canada’s imports from the U.S. have increased while its exports to the U.S. have decreased drastically. In 1990, net electricity exported from Canada to the U.S. was 619 million kilowatt-hours in comparison to 33,091 million kilowatt hours in 1981. Although the FTA has created a shift in the volume of energy trade between Canada and the U.S., it is not uncommon for large fluctuations in the net trade deficit. Much of Canada’s generating capacity is hydro-electric; and in the event of a dry year, Canada’s energy production drops significantly. Thus, though the FTA has had an impact, the magnitude of its effects is not totally clear because of the dependence of the Canadian power supply on the weather.

Although electricity trade between the U.S. and Canada is well established, neither federal government regulates imports and the physical interconnections of electricity; however, both do regulate exports. State and provincial governments regulate imports and interconnections. The U.S. federal government’s Economic Regulatory Administration and Canada’s National Energy Board are the agencies charged with export regulation. Although the FTA eliminated some of the barriers, the lack of unity created by the state and provincial regulation of electricity still impedes the electricity trade. In contrast, Mexico’s international trade and interconnections are both regulated by the Comisión Federal de Electricidad (CFE). Furthermore, Mexico’s industry is entirely government owned and operated. Even though people in areas as developed as Mexico City complain that the electricity supply is not consistent, today Mexico is a
net exporter of electricity. In 1981, Mexico had a trade deficit of 186 million kilowatt-hours, but by 1990 the deficit turned into a surplus of 1,951 million kilowatt-hours.

Electricity trade between the U.S. and Mexico increased significantly since the 1987 signing of a 220-megawatt power purchase agreement between the CFE and local California utilities. This trend of increasing trade will continue with the NAFTA. The electricity industry in the U.S. wants Mexico to loosen its investment barriers on the electricity sector. If the NAFTA becomes a reality, Mexico will allow private foreign investors to own electric generating plants for their use or to sell power back to Mexico. (Mexico: Foreign Investment Report, p. 40) Besides creating the opportunities for investments, the NAFTA negotiations could promote greater liberalization of trade in electricity. This liberalization would yield the economic and technical benefits of cheaper energy costs for consumers along with increased integrity and reliability of the system. As demand for electricity increases in Mexico, the quality of its electrical infrastructure will have to improve. It will need to achieve compatibility with that of the U.S. for efficient trans-border transmission. Compatibility, as well as geographical proximity (especially near the border), will significantly reduce transmission costs to consumers by allowing them to buy electricity from a plant that, though located in another country, is closer. Trade, which balances out the peaks and valleys of supply and demand, will also defer construction of new power plants in both the U.S. and Mexico, thereby reducing both the costs to consumers and the negative effects to the environment. (Hubauer and Schott, p. 202-3)

The NAFTA will not affect Canada's relationship with either the U.S. or Mexico. Canada's interest in trading electricity with Mexico is minimal because of the distance between the two countries. The real possibilities for change will be a result of the liberalization of the electricity sector by the Mexican government. In anticipation of a turnaround in the availability of electricity and increased restrictions in pollution controls, Ford is planning to release an electric car in Mexico within the next ten years. (Ford Motor Company, 1992)

Natural Gas Crossing Borders

Today, all three members of the trilateral trading area are leaders in natural gas reserves and production. Both the U.S. and Canada have extensive natural gas reserves and technology. As of January 1, 1990, the U.S. had an estimated 165 trillion cubic feet in reserves and a production capacity of 18 trillion cubic feet. Mexico ranks as the eighth or ninth largest producer of natural gas in the world. (Annual Petroleum Report, p. 24) Mexico's reserves are 73.4 trillion cubic feet with the production capacity of 1.28 trillion cubic feet in 1989.

The restructuring of Pemex delegates the responsibility for natural gas exploration and exploitation to Pemex Exploration and Exploitation. Pemex Gas and Petrochemical will process the natural gas. Both of these subsidiaries are completely closed to foreign investment. Historically, Canada too has restricted all foreign investment in its energy sector. But as a result of the FTA, Canada has established a method of review for the foreign takeover of Canadian firms. The foreign-owned firms participate in the oil and gas industry on the same terms as Canadian-owned companies, except in the frontier regions, where fifty percent Canadian ownership is required to get a production license. (Hubauer and Schott, p. 206) Unlike its neighbors, the U.S. has no restrictions on foreign investment. The U.S.-Canada FTA prohibits the use of minimum price requirements as well as taxes on exports, unless the tax is also levied on sales for the domestic market. These policies effectively curtail a government's ability to enforce price discrimination in favor of domestic producers. The result is a market-set pricing scheme based on commercial instead of political constraints. In early 1991, Mexico's pricing regime changed from a two-tier structure (one price for domestic users that is substantially below the export market selling price) to a market-based price. Pemex uses the import price at the U.S. border plus additional transportation costs to set the consumer price. (Annual Petroleum Report, p. 25)

Trading natural gas in the trilateral region has been extensive. In 1980, the U.S. imported nearly 800,000 million cubic feet (mcf) from Canada, and in 1990 that figure nearly doubled.
Because of geographical advantages, U.S. exports to Canada have increased concurrently. In 1980 Canada imported just over 100 mcf, and, after a peak of 38,448 mcf in 1989, the volume leveled out to 17,359 mcf in 1990. Despite its capacity to produce natural gas, Mexico has been a net importer since 1985 because of growing needs and insufficient production and distribution capabilities. The U.S. supplies nearly 90 percent of Mexico's imports of natural gas, and demand has been increasing steadily. (USITC 2353, p. 4-30)

The main reason for Mexico's lagging natural gas development has been a lack of investment capital. During the 1970s when Mexico's oil industry was expanding rapidly, as much as 26.1 percent of the natural gas associated with crude oil extraction was flared. Like many developing countries, Mexico focused its efforts on oil and considered associated natural gas a by-product not worth the investment in the infrastructure required to collect it. Today, Mexico flares only three percent of its gas, but still the natural gas industry lacks capital. (Annual Petroleum Report, p. 25) The negative shift in financial support associated with the financial crisis of 1982 is shown by the changes in exploration. In 1982 Mexico drilled fifty-six new gas wells and in 1989 only six. (Hufbauer and Schott, p. 200) In an effort to reduce pollution, President Salinas announced in early 1992 that Mexico City's 170,000 small buses would be converted to use natural gas instead of gasoline. Currently, the conversions have been to liquid petroleum gas (LPG), a derivative of natural gas that has been used in Mexico City as cooking fuel. As public transportation converts from diesel and gasoline to natural gas or LPG, the demand for natural gas will increase.

To satisfy its increasing demand for natural gas, Mexico will increase its imports. On August 1, 1992, the Valero Natural Gas Company began operating its new pipeline border crossing near Reynosa. Another company, Houston Pipeline, a subsidiary of Enron, has petitioned the U.S. Federal Energy Regulatory Board for another border crossing in the Reynosa area. With the Enron crossing and an increase in El Paso's crossing capacity, over one billion cubic feet per day export capacity of natural gas will move from the U.S. to Mexico.

The U.S.-Canada agreement on natural gas is set by the FTA and will not be affected by the NAFTA. Canada's natural gas industry will not be involved with Mexico because of the lack of infrastructure in the form of pipelines connecting Canada and Mexico. Canada's long-term exportation goals include pipelines as far south as Philadelphia and San Diego, however. U.S. trade with Mexico is currently increasing and will continue to grow even without the NAFTA because today natural gas enters Mexico duty free from the U.S. (USITC 2353, p. 4-30) Consequently the NAFTA will not affect the movement of natural gas across borders. Mexico, like Canada, may liberalize its restrictions on foreign investment and thereby increase North American participation, although this liberalization is not written into the NAFTA.

Petrochemicals, the Biggest Money Makers

Petrochemicals, those substances formed directly or indirectly from crude petroleum, differ from chemicals, which can be derived from crude petroleum and other types of primary materials. Because the petrochemical and chemical industries are a major focal point for the negotiations, the discussion below will include an in-depth look at each country's capacities, policies, and expectations with the implementation of the NAFTA.

Trilateral Capacities

The U.S. maintains a trade deficit in energy products, being a net importer of crude petroleum. In 1989 the largest sources of U.S. imports of crude petroleum included Mexico, Canada, Saudi Arabia and other OPEC nations. As of January 1, 1990, the U.S. had estimated proven reserves of 25.9 billion barrels of crude petroleum (less than half of Mexico's), and produced 7.8 million barrels per day. Despite its lack of reserves vis-a-vis other energy rich countries, the U.S. historically has been a leader in the development of new technology in the petroleum industry. (USITC 2353, p. 4-29) The U.S. is the world's largest producer of petrochemicals, and its petroleum industry includes
large multinational petroleum companies, large
domestic firms, and smaller independent
refineries. (USITC 2353, p. 4-23) In 1989 there
were 188 U.S. refineries in operation, with the
capacity to refine 16.2 million barrels of crude
petroleum per day. (USITC 2353, p. 4-29)

In 1991 the U.S. total trade surplus in the
chemical industry reached a record $20 billion.
(Anderson, p. 8) The chemical industry is one
of the largest in the U.S., directly employing an
estimated 820,000 people in more than 12,000
plants. Significant restructuring took place
during the mid-1980s and enabled the industry
to remain the world's leader in process and
product technology and a major supplier in
markets both at home and abroad. The industry
supplies more than ninety percent of all
domestic consumption. (USITC 2353, p. 4-24)
In addition, Canada receives the largest portion
of the U.S.'s chemical exports, and (after Japan)
Mexico is the third largest market. (USITC 2353, p. 4-24)

Mexico's petrochemical industry is the fif­
ten largest in the world and accounted for
three percent of world production and 2.5 per­
cent of Mexican GDP in 1989. (Hufbauer and
Schott, p. 193) Pemex owns nine refineries and
twenty-one basic petrochemical complexes that
employed approximately 175,000 people as of
had supplied nearly half of the crude petroleum
stored in the U.S. Strategic Petroleum Reserve.
Even with the loss of this account, the U.S. is
still Mexico's major oil trading partner, account­
ing for sixty percent of Mexican exports of crude
petroleum in 1989. (USITC 2353, p. 4-30)

Mexico's estimated proven reserves of
crude petroleum as of January 1, 1990, were
56.4 billion barrels, making its oil reserves the
fifth largest in the world. However, Mexico
lacks storage facilities, which impedes timely
extraction. It hopes to overcome this obstacle
by constructing many new underground stor­
age facilities. In addition, only seven of its nine
refineries are operating. Because of this poorly
integrated system, the seven refineries are
running at over-capacity levels, and Mexico has
a trade deficit in refined petroleum products.
(Annual Petroleum Report, p. 15) Mexico's
petroleum industry, like most government
owned industries, needs large amounts of
investment capital in order to modernize and
bring production facilities up to world competi­
tion levels. Because of the condition of
Mexico's petrochemical industry, the U.S. cur­
cently satisfies nearly fifty percent of Mexico's
demand for refined petroleum products. (USITC
2353, p. 4-29)

Unfortunately, administrative corruption
in the form of payoffs, embezzlement, extortion,
and almost all other forms of graft causes de­
velopment to lag. Even though it has made
progress in ridding itself of graft, Pemex is still
one of the world's least efficiently run energy
companies. (Hufbauer and Schott, p. 185) In
order for its petroleum industry to achieve its
goals of self-sufficiency and competition,
Mexico needs to complete construction of twenty­
one petrochemical plants that have been
planned for over ten years. According to a U.S.
General Accounting Office report, Mexico needs
six to twelve billion dollars in investments by
1995 in order to avoid incurring large trade
deficits in basic petrochemicals. (GAO-91-212,
p. 2) This money will be used to increase pro­
duction of both oil and natural gas and to alter
consumption from gasoline to electricity and
natural gas. Even if all planned plants could be
built immediately, the Mexican chemical indus­
try would still face the transportation infra­
structure problems that affect its ability to
deliver products on a timely and dependable
basis. (USITC 2353, p. 4-25)

Current Policy and Activity

Mexico employs a classification system
which determines whether or not foreign
investment is allowed for a given petrochemi­
cal. It classifies all oil products as belonging to
one of three types: basic, secondary, and ter­
tiary. Those chemicals that result from the first
chemical or physical transformation of crude
petroleum and natural gas are called basic
petrochemicals. They include ethylene, propyl­
ene, and benzene, and their production is
closed to any kind of foreign investment. Sec­
dondary petrochemicals are usually second
derivatives of crude petroleum although they
can also be made directly from the feed stocks
generated by crude petroleum and natural gas.
These petrochemicals include ethylene oxide,
polypropylene, ethyl benzene, and styrene. Secondary petrochemical industries are open to forty percent foreign investment. The tertiary products, which include everything not classified as basic or secondary, include antifreeze, polyester, molded plastics, polystyrene, and synthetic rubber. The tertiary industries have no restrictions on foreign investment and are not subjected to permit requirements. (USITC 2275, p. 5-10)

Because Mexico cannot supply its domestic demand for capital, it has liberalized the raw material sector in an effort to entice more foreign investment. For example, Mexico has decreased the number of products classified as basic and secondary petrochemicals. In the 1986 Petroleum Development Plan, thirty-six products were reclassified from basic to secondary, leaving thirty-four basic petrochemicals. In 1989 that number was reduced to nineteen. Although the number has fluctuated with the addition of new products, as of 1991 it was back at nineteen. At the same time, the Mexican government reduced the number of secondary petrochemicals from 700 to 66, and for the first time distributed a definitive listing of the chemicals that were classified. In spite of all of the nationalistic sentiment toward the industry, Mexico has taken several other steps to entice foreign investors. Mexico will grant foreign investors full ownership of secondary petrochemical plants if they establish a special trust with a Mexican credit institution. Under the trust, the investor would receive the profits, but the direct control of the company would remain with the trustee. Pemex also created an incentive for foreign construction companies in its basic petrochemical plants. Mexico would pay companies to construct plants by giving them petrochemical products generated at the plant. Pemex would supervise the construction of the plant, and, upon completion, maintain and run it. Because of the hands-off nature of these deals, they are not considered to be an investment in basic petrochemicals. Another way in which Mexico is trying to entice investment is by reducing regulation delays by setting a time limit of forty-five days for the processing of petrochemical production permits.

In an effort to help Mexico, the U.S. Trade and Development Program has funded a feasibility study to upgrade two petrochemical plants. Also, the U.S. Export-Import Bank has agreed to provide loan guarantees for large purchases of U.S. oil and gas equipment and related services. (GAO/T-GGD-92-24, Summary) In addition, the Department of Energy has held bilateral consultations with its Mexican counterpart since 1982 to enhance energy cooperation. (GAO/T-GGD-92-24, Summary) Like the U.S., countries such as Germany and Japan are aiding the processes of reform and change in the petroleum industry in Mexico with investments and technology programs. (U.S. Embassy, 1992)

Trade between Canada and Mexico still remains minimal, however. Mexico ships small amounts of crude petroleum via tanker to Canada, and Canada has several medium-sized oil companies which could benefit by service contracts and the new availability of raw materials and investments in Mexico. Oil service contracting companies provide services such as well drilling, maintenance, and transportation. But the distance between the two countries and the lack of efficient infrastructure preclude the prospects for substantially increased petroleum trade.

Although the U.S. has a ban on exports of crude oil, it currently exports to Canada under a special trade agreement whereby U.S. exports of crude petroleum are exchanged for imports of refined petroleum products. (USITC 2353, p 4-30) A similar agreement could be reached with Mexico; but because Mexico's refineries are currently producing at full capacity, it is unlikely that they could handle any additional refining of imported crude oil or natural gas.

**Expectations From NAFTA**

If the NAFTA is enacted, the petrochemical industries of Canada, Mexico, and the U.S. would prosper because they complement each other. The U.S. and Canada have large amounts of industrial infrastructure, capital, and technology but decreasing supplies of natural resources. Mexico has abundant natural resources but is deficient in technology and capital. If Mexico were to open its doors to more foreign investment, U.S. and Canadian firms could improve Mexico's petroleum indus-
try while creating jobs and revenue for Americans and Canadians, too. In the near future, U.S. companies will be decreasing domestic production of basic petrochemicals and expanding their production of more valuable finished petrochemical products. (GAO/NSIAD-91-212, p. 7) With Mexico as a source of lower-priced raw materials, this expansion will be more effective. Also, Mexico could expand its production of basic petrochemicals (keeping within its constitutional concerns) to accommodate needs in the trilateral region. Under the NAFTA, the number of petrochemicals classified as basic will be reduced from nineteen to five, and firms will assume complete ownership positions over time in companies producing secondary petrochemicals. (Mexico: Foreign Investment Report, p. 9) As an added benefit, except for basic petrochemicals no import or export licenses will be required. (Mexico: Foreign Investment Report, p. 40) Chemical industry spokespersons have indicated that the U.S. chemical industry would support the NAFTA if U.S. negotiators could get secured access to feedstocks (used as raw materials in plants) and a significant reduction in the restricted petrochemical lists. (Anderson, p. 9)

Besides the direct involvement with chemicals, another benefit of the NAFTA is the opportunity for U.S. industries to participate in the exploration and recovery of natural resources. Currently taxes on these services can be as high as thirty-three percent, and Pemex gives preference to Mexican-owned companies over foreign companies. (GAO/T-GDD-92-24, p. 3) If these barriers were dropped, the U.S. would increase its activity in the oil service sector. According to virtually all of the thirty U.S. oil service contractors interviewed by the General Accounting Office (GAO/T-GGD-92-24, p. 3), contracts in Mexico would help compensate for declining oil service business in the U.S. A contract with Triton Engineering of Houston, Texas, is a case in point. Triton drilled a well under a service contract for Pemex in 127 days, compared to 249 for a similar well drilled by Pemex employees. (Annual Petroleum Report, Executive Summary) Most of the U.S. oil service contractors said that in a fair market they would have a competitive edge in Mexico, and that Mexico offers strong prospects as a long-term market. (GAO/T-GDD-92-24, p. 3) Under the NAFTA, each country will allow its states or other governing enterprises to negotiate performance clauses in their service contracts. (Mexico: Foreign Investment Report, p. 40) This will increase interest in and competition for contracts.

Increased activity in service contracts would increase the U.S. chemical industry’s revenue. In addition to service contracts, many companies would like to see the availability of risk contracts. A risk contract is one in which a foreign firm tries to extract a natural resource, and, if successful, gets a percentage of the revenues created by that resource. If the company is unsuccessful, it assumes some of the financial burden. But because president Salinas believes that “risk contracts are nothing but a disguised sale of petroleum reserves” (Annual Petroleum Report, p. 4), it is highly unlikely that any such contracts will be awarded in the near future. According to the U.S. chemical industry, the pivotal issue on petrochemicals may not be so much one of ownership of facilities and subsoil rights, but of access. U.S. companies, along with other companies operating in Mexico, need secure, reliable, and sufficient access to petrochemical feedstocks at nondiscriminatory world market prices.

The U.S. petrochemical industry would like to see Mexico liberalize its policy to allow the private sector, including foreign companies, to produce petrochemicals, starting with ethylene and propylene and continuing down the petrochemical chain. According to one chemical expert in the NAFTA negotiations, “Liberalizing the marketplace would satisfy the big U.S. petrochemical producers, help the Mexican chemical industry at the same time, and send a signal to the others that Mexico is serious about an open-market system.” (Anderson, p. 9) The chemical industry also wants the NAFTA to provide protection for intellectual property rights. This protection would include comprehensive product and process patent coverage and a minimum of compulsory licensing. (Anderson, p. 12) With increased protection, all parties in the agreement will have more confidence in creating and signing new contracts, thereby creating more interaction and revenue for all. The U.S. industry stands to lose out on the smaller batch-type product lines,
but it is supportive of the NAFTA on the whole because of the guarantees of fair competition in the Mexican market. In addition, though it is not likely in the near future, it is possible that Pemex could open service stations in the U.S. This would increase competition between the oil companies and benefit consumers.

Current U.S. duties on crude petroleum and refined petroleum products are minimal: 0.5 percent and 1.1 percent, respectively. In addition, more than forty percent of the chemicals that the U.S. imports from Mexico come into the country duty-free under the Generalized System of Preferences. (Anderson, p. 10) A reduction in existing tariffs would have a negligible effect on the demand for domestic petroleum products in the U.S. (Hufbauer and Schott, p. 198) In contrast, the tariffs on petrochemical imports to Mexico are approximately fifteen percent. This figure is significant, but because of the relative size of the U.S. industry in comparison to Mexico's, exports to Mexico would probably rise only slightly in response to the elimination of Mexico's duties. (USITC 2353, p. 4-25) Owing to the large size of the U.S. industry and the relatively small share of U.S. trade and consumption accounted for by Mexico, it is expected that the NAFTA will not have a large effect on Mexican petrochemical imports in either the short or long term. (USITC 2353, p. 4-25) The only possible effects might be felt in Texas and Louisiana (areas experiencing declines in employment and revenues in the petroleum sector), where most of the imports of Mexican energy products enter and are marketed. (USITC 2353, p. 4-30)

Although the U.S. industry is more advanced and efficient, Mexican companies are perceived as having a comparative advantage in the products produced in small, labor-intensive, batch-type processes. (Anderson, p. 11) Thus, the U.S. and Mexico have strengths and weaknesses that will make the NAFTA advantageous to both parties.

Conclusion

Both the Mexican private sector and the government are in favor of the NAFTA. President Salinas sees the importance of industrial growth for his country. The energy sector, traditionally seen as Mexico's ticket out of the Third World, is in dire need of financial and technological support. Even though the trade in energy and petrochemicals is already substantial, the continuing success of this relationship relies on the policies of future presidents. A NAFTA will lock in Salinas' policy reforms for the future and help create a more stable and efficient economy now. The NAFTA represents a major milestone in Mexico's future financial stability and success. If the NAFTA passes, the effect on Mexico's smaller economy will be much more pronounced than on that of the U.S.

The NAFTA would likely have a negligible impact on U.S. trade with Canada and other countries. An increase in U.S. exports of even moderate proportions would not significantly reduce U.S. supplies of products available for export to other markets. (USITC 2353, p. 4-25) The major impediment to increased interaction between the U.S. and Mexican petrochemical industries is the basic chemical classification list. Besides the government monopoly on electricity and basic petrochemical exploitation, the infrastructure in Mexico is a major deterrent to foreign involvement. Many facilities and transportation routes are substandard and require extra effort by foreign companies to gain entrance to actual sites. The privatization of several hundred firms and the addition of new multinational firms as a result of the NAFTA will increase the demand for efficient and consistent infrastructure systems. The result of this liberalization will be increased investments in all of Mexico's infrastructure, from phone lines to railways.

The natural gas and electricity industries in both Mexico and the U.S. are already becoming more liberalized. The electricity sector in Mexico has been drastically opened to foreign investment, and few if any trade barriers exist for the trade of natural gas between the two. The involvement of Canada's electric and natural gas industries with Mexico will be limited because of the geographic distance, and Canada's relationship with the U.S. will not change by adding Mexico to the FTA.

Signing the NAFTA would create a region with a total chemical trade of almost $145 billion. (Anderson, p. 7) U.S. and Canadian petro-
chemical industries want Mexico to allow the private sector, including foreign companies, to produce petrochemicals. The NAFTA could simultaneously help out all three countries' petrochemical industries in the event that Mexico relaxes its foreign investment policy. Decreased foreign investment barriers in Mexico will provide its petrochemical industry with the capital needed to avoid a projected trade deficit in basic petrochemicals of $8.6 billion by 1995. (GAO/NSIAD-91-212, p. 3)

Overall the NAFTA will improve the Mexican, U.S., and Canadian energy sectors. Increases in trade and investment along with decreases in tariffs will save energy because of improved efficiency, infrastructure, and commerce. In addition to decreasing waste, the NAFTA will lower energy costs for all in the trilateral area.

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