November 2004

Mexico

Mexico is a major non-OPEC oil producer and home to one of the world's largest oil companies, Pemex. Most of Mexico 's oil exports go to the United States .

Note: Information contained in this report is the best available as of November 2004 and is subject to change.

BACKGROUND

After relatively slow growth in 2003, given high oil revenues and an economic recovery in the United States , economic growth in Mexico was robust in the first half of 2004, at 3.8%. All major areas of the country's economy have expanded, especially the oil sector, but also agriculture, which grew 5.1% (year-on-year) in the second quarter. The uptick in economic growth appears to be driven by exports to the United States , domestic demand boosted by remittances and expanded consumer credit, and oil-financed public investment. Also, the maquila sector (assembly plants for exports to the United States) has rebounded in 2004, though long-run competition with China and Central America indicate Mexico may need to change the structure of the sector if it is to remain viable.

Mexico 's non-financial public sector (NFPS) showed a real increase in total fiscal revenues by about 5.5% in the first quarter of 2004, compared with the same period in 2003, while real expenditures rose by 1.5%. More than half of the revenue increase was accounted for by higher oil income, as Mexico 's export basket price was about $27 per barrel, $7 above the assumed price in the budget. In the long term, the Mexican government's dependence on oil revenues could prove to be an issue, particularly if revenues cannot keep pace with spending increases in health, education, and infrastructure necessary to maintain and improve living standards. In addition, new Mexican Energy Secretary Fernando Elizondo Barragán has noted that Mexican state oil company Pemex will need fiscal reform to lessen government dependence on its revenue. In Mexico , non-oil related fiscal revenue makes up only about 12% of GDP. Pemex needs to retain more of its capital for investment so that it can maintain, and possibly increase, revenues in the long run (more on this below).

On September 8, 2004 , Mexican President Vicente Fox presented the Mexican Congress with the government's economic program for 2005. The plan proposes, for the first time in many years, a slight nominal decline in expenditures (meaning significant real declines, perhaps 4-5%); a reduction in external debt; and a decrease in the value-added tax (VAT). On the other hand, the plan calls for a new sales tax at the same time that equals the reduction of the percentage of the VAT.

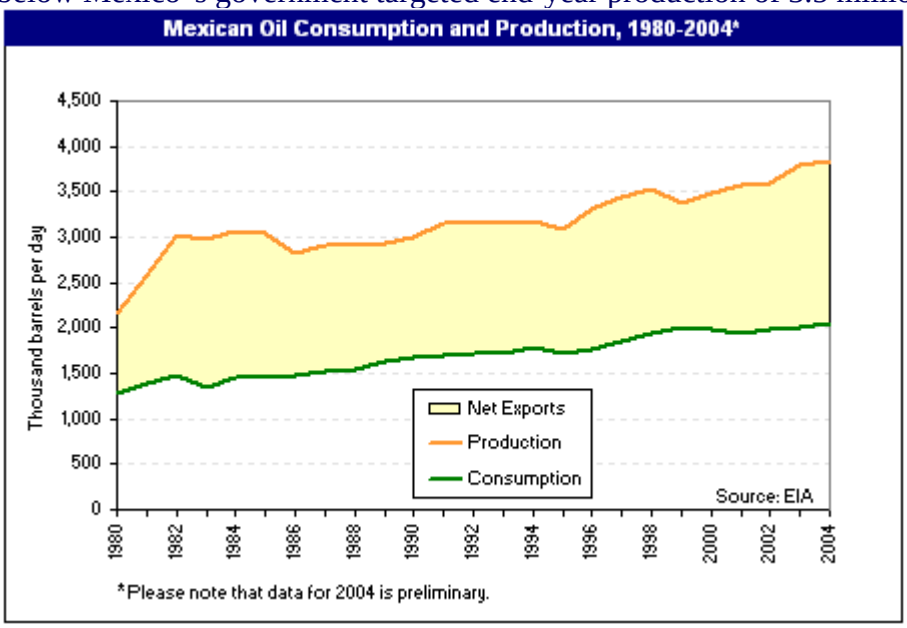
The Fox government had planned to make significant reforms to the energy sector, some which would require constitutional changes, such as allowing some private capital and foreign participation in the natural gas, and in particular, oil industries. However, Energy Secretary Elizondo acknowledged in August 2004, that that there was insufficient congressional support to make such changes.

OIL

Most analysts agree that Mexico has the third-largest proven conventional crude oil reserves in the Western Hemisphere after Venezuela, and the United States (EIA does not make its own reserve estimates). In September 2002, Pemex had revised its proven crude oil reserve estimates downward by 53%, to 12.6 billion barrels, reducing Mexico ’s proven reserves to their lowest point in the last decade. Pemex subsequently raised its proven reserves estimate to 15.7 billion barrels. The initial revision was done in order to comply with U.S. Securities and Exchange Commission (SEC) filing guidelines, which require that hydrocarbon reserves qualifying as "proven reserves" be under commitment for exploration in the short term. According to Pemex, proven, probable, and possible crude oil reserves totaled 48 billion barrels at the beginning of 2004. The reserve replacement ratio was 45% in 2003, up from a 1990s average of 26%. According to Energy Secretary Elizondo, Mexico 's proven reserves stood at 18.9 billion barrels in June 2004; Mexico 's oil reserves could run out in 11 years.

For 2004, it is expected that Mexico 's reserve replacement ratio will show a decline compared to 2003. In August 2004, then-Pemex Exploration and Production Director Luis Ramírez Corzo announced that a deepwater seismic program over the past three years had identified an additional 54 billion barrels of possible crude oil reserves in the Gulf of Mexico . However, the estimate was made without any drilling (Pemex has never drilled in deepwater). In the longer term, Energy Secretary Elizondo recently stated that Mexico must reverse the trend of the past twenty years of insufficient investment, or Mexico will be importing oil "a little after 2013." In order to avoid this possibility, he advocated $130 billion of investment in Mexico 's oil sector over the next ten years, including permitting investment by foreigners.

In 2003, Mexico produced an estimated 3.8 million barrels per day (bbl/d) of oil (including crude oil, condensate and natural gas liquids). Of this, about 3.4 million bbl/d was crude oil production, below Mexico 's government targeted end-year production of 3.5 million bbl/d, but still an increase of 6.1% year-on-year. This was mainly due to higher production from Mexico 's revived oilfield, Cantarell. During the first three quarters of 2004, Mexican crude oil production has been fairly flat compared with the same period in 2003, but natural gas liquid production (including lease condensate) has increased by about 6%.



In 2003, Mexico consumed 2.02 million bbl/d of oil, resulting in approximate net oil exports of 1.78 million

bbl/d. The United States purchased about 1.6 million bbl/d of these exports, making Mexico the third-largest foreign supplier of petroleum to the United States , behind Canada and Saudi Arabia . According to Pemex , Mexico 's crude oil exports in January through August 2004 averaged 1.83 million bbl/d, with 88% going to the Americas (mostly to the United States), 10% to Europe , and 2% to the Far East . The total value of these crude oil exports was $13.2 billion. During the first three quarters of 2004, preliminary estimates show that Mexico ranked as the world's fifth-largest oil producer (including crude, lease condensate, natural gas liquids, and refinery gain), behind Saudi Arabia, Russia, the United States, and Iran.

Mexico participates in the San José Agreement, along with Venezuela , which allows participating countries in the Caribbean and Central America to purchase up to 160,000 bbl/d of oil from the two supplier countries on preferential terms. A new definition of the agreement is being worked out, which proposes to use a credit system to fund development projects in the consumer countries.

Sector Organization: Petróleos Mexicanos

The Mexican Congress established Petróleos Mexicanos (Pemex) on June 7, 1938 in conjunction with the nationalization of the foreign oil companies then operating in Mexico . The company's operations were split in 1992 into four principal subsidiary entities: Pemex-Exploración y Producción (Pemex-Exploration and Production); Pemex-Refinación (Pemex-Refining); Pemex-Gas y Petroquímica Básica (Pemex-Gas and Basic Petrochemicals); and Pemex-Petroquímica (Pemex-Petrochemicals). Pemex retains exclusive rights to oil exploration and production in Mexico . However, Mexico's Constitution provides that the Mexican nation, not Pemex, owns the petroleum and other hydrocarbon reserves located in Mexico, according to Regulatory Law to Article 27 of the Political Constitution of the United Mexican States Concerning Petroleum Affairs (Ley Reglamentaria del Artículo 27 Constitucional en el Ramo del Petróleo). On November 1, 2004 , the Director General of Pemex, Raúl Muñoz, resigned. That same day Mexican president Fox appointed then-Director of Pemex Exploration and Production Luis Ramírez Corzo to replace Muñoz.

Government Revenue Mainstay

In 2003, Mexico 's federal government relied on Pemex for about one-third of its budget, with Pemex and its subsidiaries turning over an estimated 60% of their annual revenues to the government. An additional 8% of Pemex revenues were used to cover pension liabilities. Overall, Pemex's financial obligations to the government can make it more difficult for the company to make needed capital expenditures in order to sustain production levels and to increase Mexico 's hydrocarbon reserves. Complicating matters further is Pemex's reliance on the Mexican Congress for its budget, which makes it difficult for the company to set its own priorities for reinvestment.

Pemex is also affected by fluctuating world oil prices. In 1998, for example, low oil prices resulted in Pemex generating lower revenues and thus paying less in taxes to the Mexican government. In response, the Mexican government imposed federal budget cuts that resulted in an 11% decrease in Pemex's capital expenditures budget. Even now, with oil prices well above the budget target, Pemex benefits little, because of the government's tax on extra revenue. That is, in addition to the government's 60.8% tax on gross revenue, an additional 39.2% of revenue that is the difference between the budgeted selling price and the actual selling price is taken. In 2003, this meant that Pemex posted a loss of $3.7 billion, after turning over revenues of $33.8 billion to the government. In the first nine months of 2004, Pemex posted a relatively smaller loss of $1.3 billion, as higher oil prices meant much higher revenues, even as a larger percentage was taxed. On November 4, 2004 , Pemex CFO Juan José Suárez announced an investment budget of $11.2 billion for 2005, of which 85% would be spent on production and exploration. This budget still must be approved by Congress, however.

Aside from government allocated resources, Pemex (as well as state-owned utility, Comisión National de Electricidad – CFE) can fund new projects through the private-debt-finance scheme Pidiregas (Proyectos de Impacto Diferido en el Registro del Gasto). Pemex mainly uses Pidiregas to fund long-term upstream projects. A large part of Pemex's budget is allocated to paying just the Pideregas debt, approximately $3 billion out of a budget of $10 billion for this year. Pemex is the world's most indebted oil company, with net debt of about $32 billion. In addition, the company has lost about $14 billion in equity capital in the past four years. The net effect of all of this, according to former Pemex Exploration and Production Director Luis Ramírez Corzo, is that three quarters of investment in the hydrocarbons sector from 2001 to 2004 was for debt repayment, and only one quarter of the investment went to operations. In order to free up more capital, Pemex has looked to cut costs, particularly in terms of staffing. Pemex has about 140,000 employees, so production is about 28 barrels per employee per day, whereas PdVSA, the state-owned Venezuelan oil company, produces about 43 barrels per employee per day (downstream refining sectors are comparable). So far though, efforts in this regard have stalled.

The Mexican government has proposed changes to the way Pemex is taxed, under a proposal by the Fox Administration. Pemex would be able to keep one-third of excess export revenues and one-half of other excess federal revenues under the proposal, and new projects would be taxed differently from existing projects. However, there appears to be insufficient support in the Congress for the change.

Increasing Production

Pemex plans to increase crude oil production to 4 million bbl/d and to achieve a 75% reserve replacement by 2006. In order to meet these goals, Pemex has estimated that it will need to make capital expenditures of approximately $45.3 billion in exploration and production over the next five years, in addition to $16.1 billion refinery upgrades over the next ten years in order to meet anticipated growth in domestic and international oil market demand. The Fox administration has recognized this, and has successfully lobbied the Mexican Congress to raise annual allocations to Pemex. In 2003, Pemex’s capital expenditure budget was an all-time high of $10.3 billion, and in 2004 is estimated at $12 billion, of which 74.4% will go to production.

In May 2003, President Fox unveiled two multibillion-dollar projects for Pemex. The first project focuses on the development of the Chicontepec field, northeast of Mexico City , where hydrocarbon reserves are expected to total an estimated 18 billion barrels of oil equivalent (including all liquids and natural gas). Over 15 years, Pemex is expected to spend $29.8 billion to develop a planned 13,500 wells at Chicontepec. Pemex already has signed a $500 million oil-field services contract with ICA Fluor Daniels and Schlumberger to drill 250 wells in the field. The second project, the Marine Platform Building Program, will build 47 offshore platforms, 111 miles of pipeline, plus separation and compressor facilities to develop the Ku-Maloob-Zaap complex and the Lankahuasa natural gas find and other light crude projects. Once completed in 2006, these projects are expected to produce 1.5 million bbl/d of crude oil and 1.5 billion cubic feet (Bcf) per day of natural gas, with 800,000 bbl/d from Ku-Maloob-Zapp alone by the end of the decade.

As Mexico 's existing fields mature, some observers consider Pemex to be poorly equipped to discover and monetize new natural resources. President Fox has made efforts towards modernizing Pemex by proposing that the company open itself increasingly to foreign involvement in Mexico , not only to increase operational efficiencies, but also to assist the company in exploring frontier areas, such as deepwater regions in the Gulf of Mexico .

Production and Exploration

Pemex's Crude Exports according to Grade, 1999-2004*

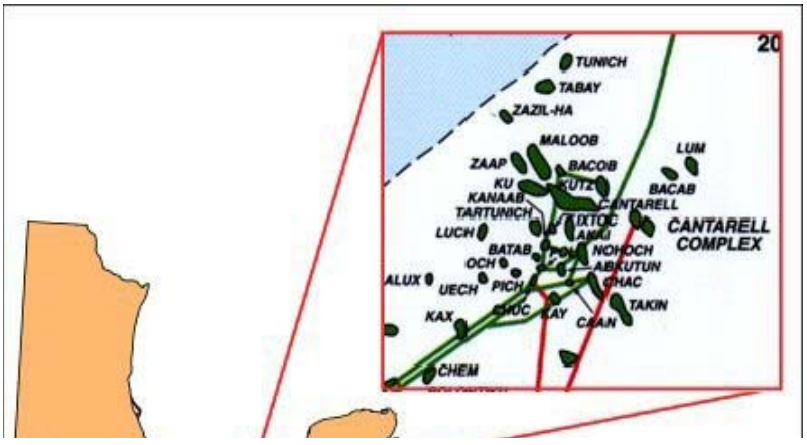
The Bay of Campeche, located in southeastern

Mexico, is the mainstay of the country's oil industry, accounting for 67% of Mexico's crude oil output in 2002. Most of the oil produced in this region is a heavy crude oil (22° API), known as Maya-22. Besides Maya, which accounts for nearly 50% of Mexico 's crude oil production, about 73% of Mexican crude oil output in the first seven months of 2004 was heavy grades. Oil is produced from three major fields within the area (see map below): Cantarell; Ku-Maloob-Zaap; and Ek-Balam. Mexico also produces two main grades of lighter crude oil: light, low-sulfur Isthmus-34; and extra-light Olmeca-39. Fields yielding these grades are located in the South, mostly near the Gulf of Mexico . Of these crudes, Maya accounted for 87% of country's exports, followed by Olmeca (12%) and Isthmus (1%) in 2003 (see graph). According to Pemex statistics, extra-light crude oil production experienced a precipitous decline at the beginning of 2004, dropping from about 430,000 bbl/d in December 2003 to about 120,000 bbl/d in January 2004. However, this was made up for by an increase in light crude oil output at other fields.

Cantarell Oil Field

Cantarell is the largest oilfield in Mexico , as well as one of the largest in the world, with an estimated 35 billion barrels of oil originally in place. The Cantarell complex, located about 56 miles offshore in the Bay of Campeche (see map), consists of four major sub-fields: Akal; Nohoch; Chac; and Kutz. Oil production from the region started in 1979 but, by 1996, output from the field had declined significantly due to decreased reservoir pressure. In 1997, Pemex developed a plan to reverse the field's decline by injecting nitrogen to maintain reservoir pressure. The company awarded a 15-year contract to an international consortium, consisting of BOC Gases, Marubeni Corporation, Westcoast Energy, ICA Fluor Daniel, and Linde, to supply 1.2 Bcf per day of nitrogen for injection. The project also included 204 new wells.

After the project was completed in late November 2001, Cantarell began showing significant signs of recovery, and by 2002, daily production from the field had reached an estimated 1.88 million bbl/d, double the amount it was producing in 1995. Pemex continues to develop Cantarell, and has plans to install additional production infrastructure, including 53 new wells and two wellhead platforms. The new platforms and wells are to be located in the established Akal reservoir, with bids for the platforms to submitted in November 2004. The Akal expansion is expected to boost recoverable reserves by 324 million barrels. In August 2004, a new offshore natural gas compression plant and a new gas processing plant were inaugurated. According to then Exploration and Production Director Ramírez Corzo, Cantarell's production should remain stable until 2006, but would decline by 14% per year after that. However, Ramírez Corzo recently stated on November 2, 2004 that "Our best estimate is that Cantarell will start to decline toward the middle of next year [2005]," raising the possibility that Cantarell's decline could come sooner than originally had been thought.



Pemex is in the process of developing the untapped Sihil field, located underneath the Cantarell field. In November 2004, Pemex will receive bids on a new platform to exploit this reservoir, which has an estimated 400 million barrels of recoverable reserves. Also, under discussion is construction of fifth module to boost nitrogen injection by an additional 0.3 Bcf.

Mexico and OPEC

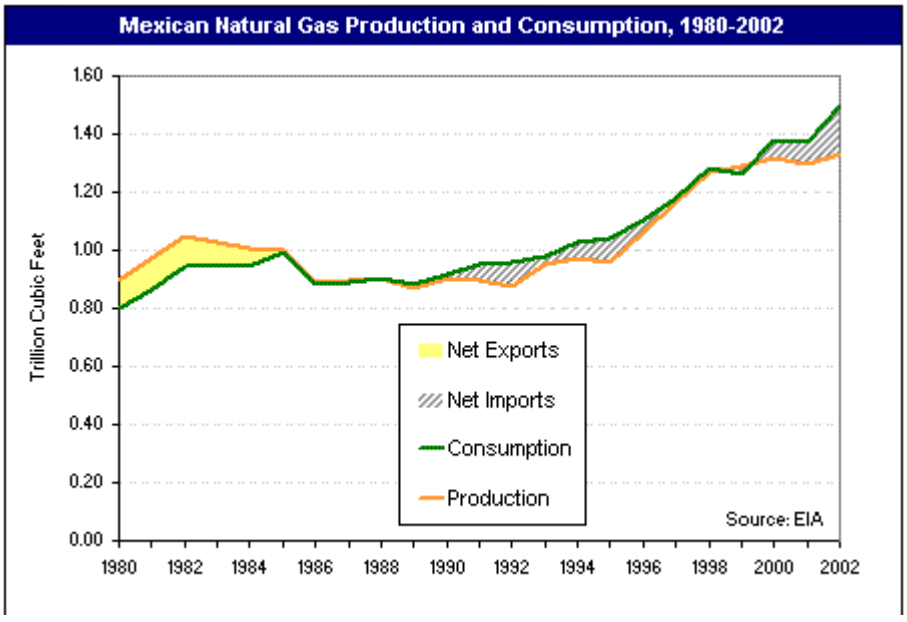
Although Mexico is not a member of the Organization of Petroleum Exporting Countries (OPEC), it has at times worked in conjunction with the cartel to adjust global crude oil supplies. For more detail see EIA's Non-OPEC Factsheet.

Downstream

Pemex has six refineries within Mexico and controls 50% of a refinery in Deer Park , Texas , giving the company a total refining capacity of 1.73 million bbl/d. In 2001, the government began a $3.9 billion, long-term upgrading plan for all six refineries, designed not only to increase total refinery capacity by 350,000 bbl/d but also to improve the quality of gasoline by reducing levels of sulfur and lead. So far, work at four refineries, Madero, Salamanca , Tula , and Cadereyta, has been completed. Pemex now plans to spend $2.4 billion to upgrade the Minatitlán refinery, not only to optimize product output and better handle high-sulfur crude, but also to double capacity to 328,000 bbl/d by 2008. Costs for this work have soared from initial estimates, and ICA Fluor began the upgrading work in September after being awarded a $690 million contract. The refinery upgrades have changed Mexico from being a net importer of gasoline and distillate to being a net exporter of those products in 2004, with Mexico remaining a net importer of petroleum products only because of insufficient domestic supply of liquefied petroleum gas (LPG).

NATURAL GAS

Mexico has proven natural gas reserves of 15.0 trillion cubic feet (Tcf), according to *Oil and Gas Journal*. Mexico 's natural gas reserves were revised downwards at the beginning of 2003, but they were adjusted back up again in the beginning of 2004, though not to as high a level as they were previously estimated at in 2002. According to the Mexican Secretariat of Energy (Sener), about 59% of Mexico 's natural gas reserves are located in the North of the country, with the rest in three other regions. Although the country is home to the Western Hemisphere's sixth-largest natural gas reserves (after the United States, Venezuela, Canada, Argentina, and Bolivia), Mexico's demand for natural gas has outpaced the country's production over the last decade (see graph). In 2002, Mexico 's natural gas production remained flat at 1.33 Tcf while demand leaped to 1.50 Tcf. Pemex data shows domestic production up less than 2% in 2003 compared to 2002, and again for the daily average of the first nine months of 2004 compared with the daily average of 2003 up less than 2%. However, according to this same data, natural gas sales increased by 8% in 2003 compared to 2002, and by 5% for the daily average of the first nine months of 2004 compared with the daily average for 2003.



The largest jump in natural gas consumption has occurred in the power sector, with its demand increasing from 465 million cubic feet per day (Mmcf/d) in 1993 to 1.51 billion cubic feet per day (Bcf/d) in 2002. Increased demand has resulted in Mexico importing more natural gas from the United States , with imports up 28% in 2003 over the previous year. According to a report released by Sener, Mexico ’s demand for

natural gas is projected to reach 8.9 Bcf/d (3.2 Tcf) by 2010. EIA projects a lower growth rate in its reference case, about 1.7 Tcf by 2010. The largest consumer of natural gas is projected to be the power sector, accounting for 45% of the country's total demand in 2012.

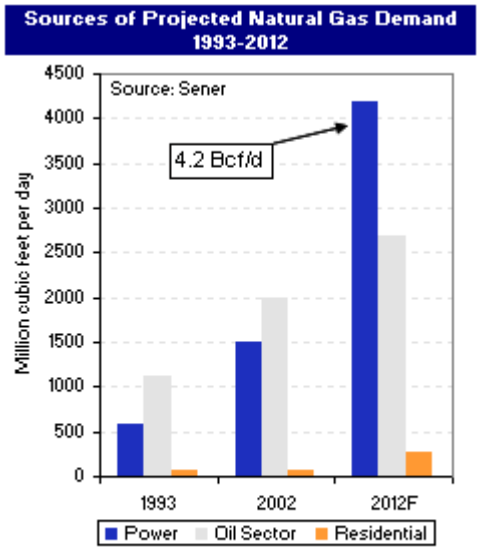
Mexico 's natural gas infrastructure includes eight natural gas processing complexes with the following total capacity: 4.2 Bcf/d for sulfur removal, 5.0 Bcf/d for liquids recovery, and 563,000 bbl/d of fractionation. Natural gas liquids (including condensates) production through the first three quarters of 2004 has averaged about 442,000 bbl/d, making Mexico one of the largest producers in the world for these liquids.

Strategic Gas Plan

One of the Fox administration's main priorities in reforming Mexico 's energy sector has been to increase domestic natural gas production in order to meet domestic demand and to stem the rising tide of expensive imports from the United States . In 2003, Mexico spent about $2 billion on natural gas imports, about 35% of the country's trade deficit. The Strategic Gas Plan, first introduced by Pemex in 2000, calls for domestic natural gas production to increase to 8 Bcf/d by 2008. In order to achieve this goal, Pemex has highlighted the following objectives: 1) increase natural gas production through multiple service contracts (MSCs); 2) diversify natural gas supply sources from abroad and increase imports of liquefied natural gas (LNG) in order to decrease reliance on domestic production and on imports from the United States; 3) flare less associated natural gas (Pemex flared an estimated 266 Mmcf/d in 2002); 4) expand natural gas transport, distribution, and storage facilities, particularly increasing interconnection capacity between the U.S. pipeline grid and Mexico's; and 5) allocate more funding to exploration to increase proven reserves.

Multiple Service Contracts (MSCs)

MSCs, designed to comply with the country's constitution, mark Mexico 's most ambitious effort to attract private companies to stimulate natural gas production by developing non-associated natural gas fields. Under a MSC contract, private companies will be responsible for 100% of the financing of a contract and will be paid for the works performed and services rendered. However, the natural gas produced in a specific field remains the property of Pemex. Examples of work which contractors can perform include seismic processing and interpretation, geological modeling, fields engineering, production engineering, drilling, facility design and construction, facility and well maintenance and natural gas transportation services. Some Mexican politicians still oppose MSCs as a violation of the Mexican constitution's ban on concessions.



MSC Bidding Round s

In July 2003, Pemex opened up a bidding process for seven blocks located in the Burgos Basin , with the intention of increasing the Basin's natural gas production to 2 Bcf/d by 2008/9, from the current 1 Bcf/d. At the end of that initial process, Pemex had awarded five of the seven blocks. Two blocks, Corindón-Pandura and Ricos, failed to garner any bids. Repsol-YPF was the first private company to be awarded a MSC contract for the development the Reynosa-Monterrey block. Petrobras, along with Teikoku Oil of Japan and Grupo Diavaz of Mexico , were awarded contracts for two separate blocks, Cuervito and Fronterizo. Argentina 's Tecpetrol, in partnership with Mexico 's Industrial Perforadora de Campeche, won a contract for the

Misión block. Texas-based Lewis Energy received the fifth contract on February 9, 2004 for the Olmos block. Pemex announced that investment in the five blocks would total some $4.5 billion.

Four more blocks were put on offer on July 29, 2004 . The Burgos blocks, Pandura-Anahuac and Ricos, are are carved out of areas that received no bids in the first round. On November 10, Pemex awarded an MSC on the Padera-Anahuac block to a consortium pf Industrial Perforadora de Campeche and Compania de Desarrollo de Servicios Petroleros for $900 million. Work is to begin on January 14, 2005 . Bids on the other three blocks are expected in January 2005. Expected production on the Burgos blocks is 145 million cubic feet per day (MMcf/d) and bids are expected to exceed $900 million. The other two blocks, Pirineo and Monclova , are in the Sabinas basin, where recent test wells by Pemex have shown good initial production.

The MSCs appear to be a positive step towards a gradual opening of Mexico ’s natural gas production to private and foreign companies. However, the eventual production from all of these blocks, if fully successful, will likely not fully counteract Mexico 's need to import - the five MSC blocks awarded in the first round are expected to eventually produce an additional 440 Mmcf/d, and the four in the second round an additional 465 Mmcf/d.

Liquefied Natural Gas (LNG)

Mexico currently has plans to develop LNG import regasification facilities on both coasts of Mexico . Most of the proposed facilities are located close to the U.S.-Mexican border in Baja California , with the intention to supply markets in Northern Mexico and in southwestern United States . This area has seen the most competition for LNG locations, based on the expected power demand increase in northern Mexico and its proximity to the U.S. border.

East Coast

Altamira: Royal Dutch/Shell, Total, and Mitsui

The Altamira regasification terminal, originally a joint venture between Royal Dutch/Shell Group and the Total Group, is the only LNG facility located on the east coast of Mexico, at a large industrial port. In November 2004, Mitsui of Japan announced that it is acquiring a 25% stake in the project from Shell, such that Shell's holding will be reduced to 50%, and Total and Mitsui will each have a 25% share. Union Fenosa of Spain will construct and operate the regasification plant. Altamira is expected to be operational in late 2006, with an annual capacity of 177 Bcf per year. In August 2003, Mexico ’s Comisión Federal de Electricidad (CFE) awarded Gas del Litoral S. de R.L. de C.V., a Mexican affiliate of Shell, a contract to supply 177 Bcf for 15 years. CFE plans to use the natural gas to supply its next independent power projects (IPPs) in the Altamira region: Tuxpan X (495 megawatts - MW); Altamira V (1,180 MW); and Tamazunchale I (1,035 MW). In June 2004, Shell announced that it would only be importing enough LNG to meet its obligations to CFE, despite initial considerations to sell to other Mexican customers and perhaps to the United States through Pemex's grid.

West Coast

Costa Azul: Sempra Energy and Royal Dutch/Shell

After acknowledging that the market in the Costa Azul region could not absorb all of the expected volumes, Sempra Energy and Shell announced plans in December 2003 to merge both their proposed LNG projects in Mexico ’s Baja California , near Ensenada . This was finalized in October 2004, with Shell and Sempra reaching an agreement giving each company half of the initial capacity of the planned plant as well as the rights to half of any future capacity additions. In the meantime, Sempra has acquired all of the main permits necessary for the project to go forward, and is in the process of awarding the construction contract so that construction can begin in January 2005. The plant, with a peak regasification capacity of 1 Bcf/d, is expected to be operational in

2008.

Also in December 2003, Sempra signed a deal to buy 500 Mmcf/d from BP's Tangguh LNG project in West Papua , Indonesia , for twenty years beginning in 2007. This $5 billion deal was formalized in October 2004, with the start data pushed back to 2008. Sempra had originally planned to buy LNG from Bolivia until unrest in that country last year forced Sempra to look elsewhere for supply. Shell plans to acquire its supply from the Sakhalin Energy consortium that it leads, after reaching an agreement with the consortium in October 2004. Volumes will plateau at around 200 Mmcf/d, but will be higher in the first few years (starting 2008). This is the first agreement to take Russian natural gas to North America .

Sempra plans to take advantage of its established presence in the region. The company already holds a natural gas distribution concession in Mexicali , on the California border, and supplies natural gas to the President Juárez power plant in Rosarito, via its Transportadora de Gas Natural de Baja California pipeline. Also, in September 2004, the California Public Utilities Commission (PUC) voted to allow San Diego-based Sempra to bring in regasified LNG from Mexico by pipeline to California , from where it could also be transported to other American states.

Coronado Islands : ChevronTexaco

In October 2003, ChevronTexaco announced plans to build a 1.4 Bcf/d-terminal, with an initial capacity of 700 Mmcf/d, offshore Mexico 's Baja California peninsula, near the Coronado Islands . According to the company, natural gas from the terminal would most likely be distributed on both sides of the U.S. and Mexican border. ChevronTexaco initially planned to build the facility onshore but after witnessing the trouble that fellow competitors, Sempra and Marathon, had been having with local opposition, the company decided to move the project offshore. Thus far, ChevronTexaco has filed permit applications with CRE and Semarnat, for the offshore terminal, as well as has applied for permission from the Ministry of Communication and Transport (SCT) for the right to construct and operate a terminal in Mexico 's federal waters. The company will supply the regasification terminal from its Gorgon Joint Venture offshore Australia . Pending regulatory approval, startup is planned for 2007. In October 2004, Mexico 's Undersecretary of Energy for Hydrocarbons, Hector Madeira Rodríguez, asserted that he expects the project to be fully approved, but did not give a date by when this would happen.

Lázaro Cárdenas: Repsol-YPF

In February 2004, Repsol-YPF outbid Tractebel to win a concession to construct a LNG terminal in the Port Lázaro Cárdenas, on the Pacific Coast . The plant initially is to have a capacity of 141 Bcf per year (beginning in 2008) and eventually is to be ramped up to 353 Bcf per year. Lázaro Cárdenas reportedly is the only port on Mexico 's Pacific coast equipped with facilities to access the national natural gas grid.

Tijuana Regional Energy Center : Marathon

On March 2, 2004 , Marathon Oil, in partnership with Golar LNG Limited and Grupo GGS, decided to drop its Tijuana Regional Energy Center after the local government decided to expropriate the land on which the group planned to build their facility. The proposed project would have included an LNG regasification terminal, with a capacity of 750 Mmcf/d, a 1,200-MW electricity generation plant and a 2-million-gallon per day desalination facility. Since its inception, the plan had faced stiff local opposition as the project was located near residential areas around Tijuana .

Sonora : DKRW Energy

In May 2004, the Sonoran state government signed a cooperation agreement with Houston-based DKRW's wholly-owned subsidiary Sonora Pacific Liquefied Natural Gas to build a 1.3 Bcf/d-

capacity LNG regasification terminal at Puerto Libertad, on the Gulf of California . Land was for the project was purchased from the State of Sonora in August, 2004. Plans are for construction to begin in mid-2005, and operations to begin in mid-2008, if all permits are acquired and throughput capacity and equity marketing are completed. Bechtel and CBI will build the project, which plans indicate will provide 500 Mmcf/d to the State of Sonora . The remainder (800 Mmcf/d) would be exported to the United States . In September 2004, Sonora Pacific entered into a joint agreement with El Paso to develop 350 miles of pipeline infrastructure within Mexico and to utilize El Paso 's interstate pipeline system at the U.S. border.

Increased Exploration Efforts

Pemex plans to allocate more funding in finding and developing new natural gas reserves in order to offset the rise of imports. In February 2004, Pemex announced that it planned to invest $1.2 billion in natural gas exploration and production in the state of Veracruz . The investment is designed to increase production from new discoveries which include Playuela, Copite, Vistoso, Madera and Lankahuasa.

Another option that Pemex has been considering is the development of deepwater hydrocarbon sources. While deepwater oil exploration has been taking place in waters of northern (U.S.) Gulf of Mexico , Mexico has focused on shallow water production. Pemex is hoping to develop a framework which would allow for cooperation in deepwater areas, similar to MSCs.

Downstream: Transportation, Distribution and Storage

Mexico's downstream natural gas market has been open to private investors since the passage of the 1995 Natural Gas Law. This legislation modified the constitution to allow private companies to become involved in natural gas transportation, storage, and distribution in Mexico , although it prohibited a company from ownership in more than one function within the industry. The legislation also liberalized exports and imports and established the regulatory framework for building and expanding transmission and distribution pipelines. Pemex retained its control over exploration and production while giving private companies access to drilling and other services.

The Mexican Energy Regulatory Commission (CRE) regulates the natural gas industry. CRE's powers include enforcement of regulations, inspections of facilities, issuance of permits, regulation of prices, overall supervision of the industry, ensuring an adequate supply, security, the promotion of competition, and the elimination of cross-subsidies. Private-sector participation in these areas currently is subject to permits granted by CRE for 30 years, based on competitive bidding.

National Pipeline Grid

Pemex’s natural gas network currently extends 5,652 miles (includes Sistema Nacional de Gasoductos and Naco Hermosillo), with eight compression stations. In 1997, CRE granted nine private natural gas distributors 21 permits to operate in Mexico . The companies holding permits include Spain’s Gas Natural with seven; Belgium’s Tractebel, Gaz de France, and Sempra Energy with three each; Kinder Morgan and TXUEnergy with one each; and Mexican companies Grupo Diavaz and Grupo Imperial with three in total.

International Natural Gas Interconnectors

Mexico ’s Ministry of Energy reported that there were eight natural gas interconnection stations between Mexico and the United States at the end of 2002. Natural gas import capacity has increased further since two new pipelines came onstream during 2003. In April 2003, U.S.-based Kinder Morgan Energy Partners (KMP) opened its new cross-border pipeline, connecting south Texas with Mexico industrial city of Monterrey , Mexico . KMP entered into a 15-year contract with Pemex, which subscribed for all of the pipeline's capacity -- 375 Mmcf/d. The pipeline connects to a 1,000-

MW plant complex near Monterrey and to Pemex's natural gas transportation system. In November 2003, U.S. based Tidelands Oil and Gas opened a new natural gas pipeline (Eagle Pass International Pipeline), crossing at Eagle Pass , Texas and connecting to Piedras Negras , Mexico . The company expects to expand the transportation capacity of the pipeline in the future. Sempra Energy and PG&E Gas Transmission Northwest reported in November 2003 that they had received strong interest during their open season in potentially expanding the North Baja pipeline system in Baja California , Mexico and the southwestern United States . The open season allows shippers to indicate interest for new interconnections to serve their markets. The importance of this proposed expansion is that it would allow natural gas from the proposed LNG terminals in the region to markets in Mexico and in the United States .

New Storage and Pipelines

In January 2004, Pemex signed a memorandum of understanding with U.S.-based Tidelands Oil and Gas to construct and operate a natural gas storage facility near Reynosa , Mexico , in the state of Tamaulipas. However, the scope of the project was enlarged later in the year, when Tidelands and Pemex decided to also construct two new pipelines. The pipelines will connect to the planned storage facility, the U.S. network across the border, and Pemex's infrastructure. The storage capacity would initially be 50 to 60 Bcf, with an expansion capacity to 750 Bcf. Tidelands is currently reviewing bids for the design and construction of the underground facility. Pemex hopes that the storage unit and new pipelines will enable the creation of a new trading hub to better manage variation in supply and demand.

COAL

Mexico has recoverable coal reserves of about 1.3 billion short tons, just over 70% of which is anthracite and bituminous, and just less than 30% of which is lignite and subbituminous. The majority of the country's coal reserves are located in Coahuila, in the northeast of the country, bordering the United States . Coal production has remained stable in the past few years (12.1 million short tons in 2002) and is used mostly for steel production and electricity generation. A small volume of imports from the United States , Canada , and Colombia augments domestic coal supplies. Coal-fired plants supplied 15.8% of Mexico 's electricity in 2002, according to Sener. Although this percentage is expected to fall in favor of natural gas-fired power plants to meet rising electricity demand, some have argued that coal consumption in the future could increase due to high natural gas prices. Mexican coal has very high ash content and therefore is mixed with lower-ash imported coal. Local coal has higher production costs than imported coal.

ELECTRICITY

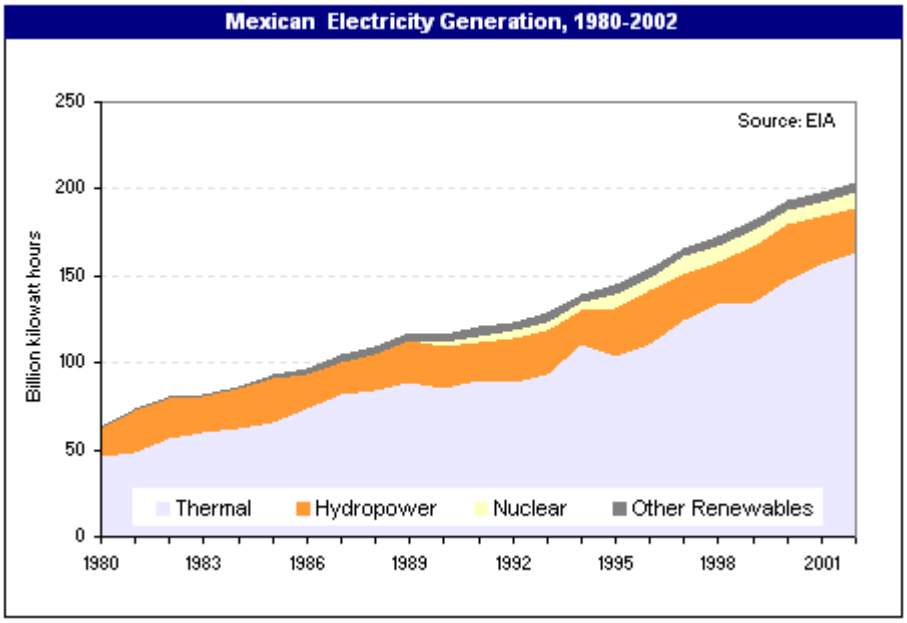
In 2002, Mexico ’s installed electric power generating capacity was 42.3 gigawatts. In the same year, the country generated an estimated 198.6 billion kilowatthours (Bkwh) of electricity, of which thermal (oil, natural gas, and coal) electricity generation account for 81%. According to Sener, total power generating capacity as of May 2004 was 50.7 gigawatts. Oil-fired power plants accounted for the largest share of Mexico 's thermal electricity generation, but many of these plants are being converted to natural gas. According to Sener, fuel oil accounted for 49.4% of thermal feedstock in 2002. Currently, only about 6% of electrical generating capacity is coal-fired. By 2012, natural gas is forecast to account for 63% of Mexico 's power output while fuel oil's share is expected to drop to 24.2%. In 2002, hydropower accounted for 12% of Mexico 's total electricity generation, followed by nuclear with 4.5% and geothermal with 2.5%. Mexico also has one wind-power installation in Oaxaca , which generated 0.005% of the country's total electricity generation. There are plans to increase Mexico 's wind capacity, which has not been added to since 1999.

Demand for electricity in Mexico has increased steadily over the last decade. According to Sener, 95% of the population has access to electricity. Sener has forecast demand to grow at a rate of 6.3%

over the next ten years, though the Comisión Federal de Electricidad (CFE) recently forecast demand growth over the next ten years at 5.5%. The regions that are expected to see the largest increase are the Northeast, the Baja California and the Yucatan peninsula, mainly due to industrial and tourism development. According to government estimates, the country will need about $51 billion in investment over the next decade to meet the country's growing electricity demand. In 2003, Sener forecast that Mexico would need about 28,200 MW of additional capacity by 2012. This is not only to compensate for increased demand, but also for the planned retirement of about 4,200 MW of capacity in aging plants.

Sector Organization

CFE and Luz y Fuerza Centro (LFC) are Mexico 's two state-owned electricity companies. CFE continues to dominate the electric power sector, although the country's Public Electricity Service Act (Ley del Servicio Público de Energía Eléctrica) was amended in December 1992, allowing private participation in generation activities, such as independent power producers (IPPs), self-suppliers (autoabastecimiento), cogeneration and small-scale generation. CFE is obligated to supply electricity to the entire country as a public service except to Mexico City and some municipalities of the States of Mexico, Morelos , Hidalgo , and Puebla , where LFC is the supplier. As of May 2004, CFE and LFC accounted for 75.7% of Mexico ’s electric generation capacity, of which LFC contributed 1.7%. Pemex accounted for 3.9%, IPPs 14.3%, self-suppliers 4.3%, and cogeneration 1.8%. CFE and LFC also control transmission and distribution of electricity, except in the cases of Pemex, cogeneration, and self-suppliers.



Independent Power Producers (IPPs)

IPPs are allowed to build and own power generation facilities, with power generated mainly bought by CFE under long-term Power Purchase Agreements (PPAs) or exported. An example of this is InterGen's La Rosita Energy facility in Mexicali , Mexico , approximately 6 miles south of the U.S. border. InterGen currently sells 66% of the facility's capacity to CFE under a 25-year PPA. The remaining capacity is sold in the border region.

New Generation

In order to meet Mexico ’s projected electricity demand growth, CFE plans to add 25,757 MW in generation capacity between 2003 and 2012, of which over half is already under construction. In 2003, Spain ’s Union Fenosa, U.S.-based Sempra Energy , Canada ’s Transalta, and InterGen commissioned new power plants. A total of 3,092 MW of new thermal capacity came on-line in 2003. The most recent power plant to come onstream was Iberdrola’s 1,036-MW Altimira III & IV in February 2004. Projects scheduled to start operations within a year include Guerrero Negro II, Baja California Sur I, Río Bravo III and the second stage of the Manuel Moreno Torres hydropower plant. Ten other projects are under construction.

New Bids

In 2003, CFE awarded three out of its five proposed IPP contracts to construct and operate new capacity, with one other awarded in 2004. The three projects awarded included the 525-MW Valladolid III (to U.S.-based Calpine Corporation and Japan 's Mitsui & Co. Ltd.); the 1,180-MW Altamira -V (to Spain 's Iberdrola); and the 495-MW Tuxpan-V (to the Mitsubishi Corporation and Kyushu Electric Power). All these power plants will be natural gas-fired, combined-cycle power plants except for Mexicali II, which combines natural gas-fired capacity with a 25-MW solar unit. Construction on Tuxpan-V began in August, 2004. In July 2004, the much sought-after contract for the combined-cycle 1,035 MW Tamazunchale I project in the state of San Luis Potosí was awarded to Iberdrola of Spain. This plant was highly contested by various bidders because, for the first time, CFE is guaranteeing the supply of natural gas and its delivery. The gas will come from the planned Altamira LNG regasification plant (see above). Bids will be received for a second Tamazunchale plant in 2005. Another IPP projects that CFE plans to put out to bid in 2004 is the combined-cycle natural gas-fired-plant, Agua Prieta II (456 MW).

CFE will own and operate the planned 101-MW La Venta wind project in Oaxaca, but it has put out an international tender for the engineering, procurement, and construction (EPC) that must be submitted by January 4, 2005, with construction set to begin in February, 2005. The 648-MW Pacífico coal-fired project in Guerrero is also out for bid now, but as a financed public works project, similar to an EPC scheme.

Infrastructure

Mexico has a national interconnected power grid with four regional divisions: Northern; North Baja ; South Baja ; and Southern (the largest). In the southeast and northeast, the grids are stretched, such that new generation cannot be added without bolstering the transmission network. Accordingly, CFE has undertaken projects designed to make needed improvements to the national grid by working with private companies to install hundreds of miles of new high voltage transmission lines over the next few years. Mexico has about 23,500 miles of transmission lines and about 400,000 miles of subtransmission and distribution lines.

International Interconnectors

Mexico 's electricity grid connects to the United States at nine points on the border, according to Sener. Currently, the Electric Reliability Council of Texas (ERCOT) is working closely with CFE in an attempt to increase the interconnectedness of their grids, both for economic and reliability reasons. In December 2003, ERCOT and CFE issued a joint report that outlined the benefits of building new transmission lines. There also are two connections to California . In the southern region, Mexico has an interconnector with Belize and is in the process of building a power transmission line connecting to Guatemala . The Mexico to Guatemala line, expected to be operational by mid-2005, is part of the Sistema de Interconexion Electrica para America Central (SIEPAC) project, which seeks to integrate the electricity grids of Central American countries. According to Sener, Mexico imported 71.9 gigawatt hours (GWh) in 2003 and exported 953.2 GWh. Nearly all of the trade is with the United States .

ENVIRONMENT

While Mexico produces only 1.5% of the total world energy-related carbon dioxide emissions, it is a major regional contributor, along with Brazil , Argentina , Venezuela , Colombia and Chile , in Latin America . Mexico 's carbon dioxide intensity is relatively high in comparison with most other countries of Central and South America . If policies are implemented as envisioned, however, carbon dioxide intensity likely will decrease in the future. Per capita energy consumption and carbon dioxide emissions are also high in comparison with other countries in the region; however, Mexico 's per capita energy consumption and carbon dioxide emissions are low when compared to

fellow OECD members.

COUNTRY OVERVIEW

President: Vicente Fox Quesada (since December 1, 2000)
Independence: September 16, 1810 (from Spain)
Population (2003E): 102.9 million
Location/Size: Southern N. America/762,000 square miles (nearly three times the size of Texas)
Major Cities: Mexico City (capital), Guadalajara, Monterrey, Puebla
Languages: Spanish, various Mayan, Nahuatl, and other regional indigenous languages
Ethnic Groups: Mestizo (Amerindian-European), 60%; Amerindian, 30%; Caucasian, 9%; Other, 1%
Religions: Roman Catholic, 89%; Protestant, 6%, Other, 5%

ECONOMIC OVERVIEW

Secretary of Finance and Public Credit: Francisco Gil Diaz
Secretary of Economy: Fernando Canales Clariond
Currency: 1 Peso = 100 centavos
Market Exchange Rate (11/10/04): US$1 = 11.45 pesos
Nominal Gross Domestic Product (GDP, 2003E): $626.1 billion
Real GDP Growth Rate (2003E):1.3% **(2004F):** 4.0% **(2005F):** 3.7%
Inflation Rate (consumer prices, 2003E): 4.6% **(2004F):** 4.3%
Major Trading Partners: United States, Canada, Japan, Germany, and United Kingdom
Merchandise Exports (2003E): $164.9 billion
Merchandise Imports (2003E): $170.6 billion
Merchandise Trade Balance (2003E): -$5.7 billion
Major Export Products: products from maquiladoras, oil, agricultural goods
Main Destinations of Exports (2003): U.S. (77%), Canada (5%), Japan (1%)
Major Import Products: products for maquiladoras, consumer goods, capital goods, raw materials and intermediate goods
Main Origins of Imports (2003): U.S. (63%), Japan (5%), Germany (4%), Canada (3%)

ENERGY OVERVIEW

Energy Minister: Fernando Elizondo Barragán
Head of Pemex: Luis Ramírez Corzo
Proven Oil Reserves (1/1/04E): 15.7 billion barrels
Oil Production (2003E): 3.8 million barrels per day (bbl/d), of which 3.37 million bbl/d was crude
Oil Consumption (2003E): 2.02 million bbl/d
Net Oil Exports (2003E): 1.78 million bbl/d
Crude Oil Refining Capacity (1/1/04E): 1.73 million bbl/d
Natural Gas Reserves (1/1/04E): 15.0 trillion cubic feet (Tcf)
Natural Gas Production (2002E): 1.33 Tcf
Natural Gas Consumption (2002E): 1.50 Tcf
Net Natural Gas Imports (2002E): 0.27 Tcf
Recoverable Coal Reserves (2001E): 1.3 billion short tons
Coal Production (2002E): 12.1 million short tons
Coal Consumption (2002E): 13.8 million short tons
Net Coal Imports (2002E): 1.7 million short tons
Electric Generation Capacity (2002E): 42.3 gigawatts
Net Electricity Generation (2002E): 198.6 billion kilowatthours (Bkwh); 81% thermal, 12% hydro, 4.5% nuclear, 2.5% other
Net Electricity Consumption (2002E): 186.7 Bkwh

ENVIRONMENTAL OVERVIEW

Secretary of Environment & Natural Resources: Alberto Cardenas Jimenez
Total Energy Consumption (2002E): 6.625 quadrillion Btu* (1.6% of world total energy consumption)
Energy-Related Carbon Dioxide Emissions (2002E): 362.5 million metric tons (1.5% of world total carbon dioxide emissions)
Per Capita Energy Consumption (2002E): 65 million Btu (vs U.S. value of 339.1 million Btu)
Per Capita Carbon Dioxide Emissions (2002E): 3.6 metric tons (vs U.S. value of 20 metric tons)
Energy Intensity (2002E): 17,646 Btu/$1995 (vs U.S. value of 10,575 Btu/$1995)**
Carbon Dioxide Intensity (2002E): 0.97 metric tons/thousand $1995 (vs U.S. value of 0.62 metric tons/thousand $1995)**
Fuel Share of Energy Consumption (2002E): Oil (65.5%), Natural Gas (23.8%), Hydro (3.8%), Coal (3.8%), Other (1.7%), Nuclear (1.4%)
Fuel Share of Carbon Dioxide Emissions (2002E): Oil (70.7%), Natural Gas (22.9%), Coal (6.4%)
Status in Climate Change Negotiations: Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified March 11th, 1993). Ratified the Kyoto Protocol on September 7th, 2000 .
Major Environmental Issues: Natural fresh water resources scarce and polluted in north, inaccessible and poor quality in center and extreme southeast; raw sewage and industrial effluents polluting rivers in urban areas; deforestation; widespread erosion; desertification; serious air pollution in the national capital and urban centers along US-Mexico border.
Major International Environmental Agreements: A party to Conventions on Biodiversity, Climate Change, Desertification, Endangered Species, Hazardous Wastes, Law of the Sea, Marine Dumping, Marine Life Conservation, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Wetlands and Whaling.

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.
**GDP figures from OECD estimates based on purchasing power parity (PPP) exchange rates.

ENERGY INDUSTRY

Organization:*Oil and natural gas* - Petróleos Mexicanos (Pemex), four operating subsidiaries (Exploration and Production, Refining, Gas and Basic Petrochemicals, Secondary Petrochemicals), Petroleos Mexicanos Internacional (PMI); *Electric power and distribution* - Comisión Federal de Electricidad (CFE) and Luz y Fuerza del Centro (LFC); *Natural gas and electric power regulation* - Comisión Reguladora de Energía (CRE)
Major Ports: Gulf Coast - Cayo Arcos, Dos Bocas, and Pajaritos (handle most of Pemex's oil exports), Tuxpan, Ciudad Madero; Pacific Coast - Salina Cruz, Rosarito
Major Oil-Producing Fields: Cantarell, Abkatun, Ku, Caan, Pol, Chuc
Major Refineries (Crude Capacity): Salina Cruz (330,000 bbl/d), Tula Hidalgo (320,000 bbl/d), Salamanca (245,000 bbl/d), Cadereyta (275,000 bbl/d), Minatitlan (194,000 bbl/d), Ciudad Madero (320,000 bbl/d)

Sources for this report include: Business News Americas; Cambridge Energy Research Associates; ChevronTexaco; Chicago Tribune; CIA World Factbook; Comisión Federal de Electricidad; Dallas Morning News; Deutsche Bank; Dow Jones News wire service; Economist Intelligence Unit

ViewsWire; Electric Utility Week; Energy Compass; Financial Times; Foster Electric Report; Global Insight; Global Power Report; Houston Chronicle; Inside Energy; Inside F.E.R.C.; International Energy Agency; International Oil Daily; International Petroleum Finance; Los Angeles Times; Marathon Oil Corporation; Mexico's Ministry of Energy; Natural Gas Week; New York Times; Oil and Gas Journal; Oil Daily; Pemex; Petrobras; Petroleum Economist; Petroleum Intelligence Weekly; Platts Oilgram News; PR News; Repsol-YPF; San Diego Union-Tribune; Securities and Exchanges Commission; Sempra Energy ; Shell; Tractebel; Transalta; Union Fenosa; Upstream; U.S. Department of State; U.S. Energy Information Administration; World Gas Intelligence; Wood MacKenzie; World Markets Analysis Online.

LINKS

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Links to other U.S. government sites:
CIA World Factbook - Mexico
U.S. Department of Commerce's Country Commercial Guide - Mexico
U.S. Department of Energy, Bilateral Energy Agreements with Mexico
U.S. Department of Energy's Office of Fossil Energy's International section - Mexico
U.S. Department of Energy, U.S. Electricity Trade
U.S. State Department's Consular Information Sheet - Mexico

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State-owned
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Independent Power Producers (IPPs)
Calpine Corporation
Iberdrola
InterGen
Mitsubishi Corporation
TransAlta
Union Fenosa

Government
Comisión Reguladora de Energía (CRE)
Secretaría de Energía (Sener)
Secretaría de Comunicaciones y Transportes (SCT)
Secretaría de Medio Ambiente y Recursos Naturales (Semarnat)

LNG
ChevronTexaco Terminal GNL Mar Adentro de Baja California
Golar LNG Limited

Marathon - Tijuana LNG Project
Sempra Energy LNG Corporation

Oil and Natural Gas Companies
Grupo DIAVAZ
PEMEX, the state-owned oil company of Mexico
Teikoku Oil Company
Tidelands Oil and Gas Corporation

Pipelines
Kinder Morgan Energy Partners

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