About This Guide

The U.S. Trade and Development Agency (USTDA) helps companies create U.S. jobs through the export of U.S. goods and services for priority development projects in emerging economies. USTDA links U.S. businesses to export opportunities by funding project planning activities, pilot projects and reverse trade missions while creating sustainable infrastructure and economic growth in partner countries.

This guide has been developed to provide U.S. companies and exporters with an overview of Mexico’s infrastructure sectors, the sector development plans in place through 2018, and to provide profiles of a sample of specific, upcoming projects of potential interest.

Currency amounts converted from Mexican Pesos (MXN) to United States dollars (USD) have been done so using a rate of 13.12 pesos to one dollar. Due to fluctuations in currency values, different levels of engineering and cost estimation completion for different projects, and differing timing of cost information publication, the monetary values within this report should only be considered approximate. Unless explicitly indicated otherwise, all currency values are in United States Dollars (USD).

All exhibits and images are sourced from Mexican government publications, unless otherwise indicated.

Authors

This report was developed under contract to USTDA by the Seneca Group LLC, based in Washington, DC. Inquiries may be directed by telephone to +1 (202) 783-5861 or to Richard Sherman at sherman@seneca-llc.com. Visit our website at: www.seneca-llc.com

Acknowledgements

The authors wish to extend their sincere thanks to the team at the United States Commercial Service office in Mexico City for their support provided during this project. We are grateful to the officials at Mexican federal agencies who generously opened their doors to meet with us to present a number of the exciting projects that have been included in this Guide.
3.4.2 Hydrocarbons

Sector Background
As of 2013, Mexico reported total reserves of 44.5 billion barrels of oil equivalent (b.o.e.). Of this, 31 percent were proven reserves (1P), 28 percent were probable reserves (2P) and 41 percent possible reserves (3P). Within these figures, 69 percent or 30.8 billion barrels were oil and 31 percent consisted of 63.2 billion cubic feet of natural gas. Proven reserves enable the current rates of production of oil for 10 years (placing Mexico among the top twenty exporting countries globally) and for natural gas for 7.3 years.

![Figure 86: Evolution of Mexico Petroleum Reserves](image)

Most production in Mexico occurs in the states of Campeche, Tabasco and Veracruz, and offshore in the Bay of Campeche. Two major active fields, Ku-Maloob-Zaap (KMZ) and Cantarell, account for more than half of national production at 13 million barrels per day. The bulk of the oil from these fields is heavy crude, much of which is shipped to the United States for processing. A sophisticated refining infrastructure has built up in the Gulf Coast states, with facilities tuned to process the specific characteristics of Mexican oil. Mexico is net exporter of crude oil but a net importer of refined products.

The evolution of production, consumption and reserves of hydrocarbons in Mexico has presented the nation with fundamental challenges over time, as illustrated in the series of charts provided. Oil production peaked in 2003 and natural gas production in 2010. Reserves of both have fallen steadily since the 1980’s. Total crude production fell by over 22 percent between 2003 and 2009, and at roughly 1 percent per year after that. Production at Cantarell, begun in 1979, began falling sharply in the 2000’s despite various technical efforts to enhance recovery. KMZ production has plateaued in recent years despite technical recovery enhancement efforts. PEMEX has been challenged to maintain production levels and bring new resources into production during this period of decline. Many of the new resources are in areas that are technically difficult to explore and extract, including deepwater and tight oil formations.
Figure 87: Hydrocarbons Production, Consumption and Reserves Evolution 1980 - 2013
Government Role

SENER

The Secretariat of Energy (SENER) retains its top level role in establishing strategic goals for the hydrocarbons sector in Mexico. SENER has the final say in the allocation of assets to PEMEX versus private actors. SENER establishes the contracts, regulations and standards for the bidding process to conduct exploration and production activities, as well as granting permits for refining activities.

CRE

The Energy Regulatory Commission (CRE) is a body aligned with SENER that is responsible for creating and enforcing the regulatory regime for the gas, refined products, petroleum derivatives and electricity generation industries, including storage, transportation/transmission and distribution. Its objective is to reduce uncertainty, support productive investment, encourage competition and ensure the stability, safety and reliability of provision of the goods and services of the sector to the public at competitive prices. The 2013-14 energy reforms granted this body greater management and budgetary autonomy. In the new market structure, CRE has the responsibility for setting tariffs for use of the national electrical grid.

PEMEX

Petróleos Mexicanos (PEMEX) is Mexico’s state-owned integrated oil and gas company. It is the largest company in the country. As of 2013, PEMEX had 154,774 employees and revenues of USD $122.9 billion. The company had strong operating margins of USD $55.6 billion in 2013. PEMEX is a critical source of federal revenue, contributing USD $66 billion to the federal budget in 2013. PEMEX has five major subsidiaries:

- **PEMEX Exploration and Production**: PEMEX E&P performs exploration for, and extraction of, oil and natural gas resources. This division is also responsible for the transportation and storage of these resources, operation of terminals, and operates as a wholesaler in the market. E&P has four operating regions: North, South, Ocean Northeast and Ocean Southeast. This division operates approximately 3,000 miles of pipelines, mostly in the southeastern portion of the country.

- **PEMEX Refining**: PEMEX Refining produces a wide range of products including gasoline, diesel, heavy fuel oil, aviation fuels, petroleum naphtha, petroleum coke, asphalt, and lubricants. They perform the downstream activities of distribution, storage and retail sale. PEMEX Refining operates a network of fuel stations across the country. This group operates six major refineries with an installed capacity of 1.64 million barrels per day of inputs.

- **PEMEX Gas and Basic Petrochemicals (PGBP)**: This subsidiary processes, transports and commercializes natural gas, liquid hydrocarbons (such as LP gas); basic petrochemicals such as ethane; propane and butane; and sulfur. They operate natural and liquefied gas pipelines and also offer natural gas hedging services. PGBP operates a national network of pipelines of 7,931 miles divided as follows:
  - 5,805 miles of natural gas pipelines.
  - 1,014 miles of LP gas pipelines.
  - 1,111 miles of product pipelines.
  - 15 compression stations and 5 pumping stations.
• **Petrochemical:** PEMEX Petrochemical produces secondary refined petrochemical products including high, and low lineal density polyethylene, ethylene oxide, glycol, vinyl chloride, ethylene, ammonia, methanol, styrene, benzene, toluene, xylem, paraxylene, propylene, orthoxylene and acrylonitrile. Their primary original feedstock is natural gas.

• **PMI Comercio Internacional:** This subsidiary consists of groups of companies specializing in petroleum products trading, holdings, services and infrastructure projects. It is a small unit of 306 persons, but is a key interface between PEMEX and international markets.

**CENEGAS**

The Centro Nacional de Control de Gas Natural (CENEGAS) is a quasi-independent agency aligned with SENER, which is responsible for the management of the Integrated National System of Storage and Transportation of Natural Gas. CENEGAS will serve as an independent system operator guaranteeing equal access to the infrastructure. This agency was created by law in August of 2014 and within 90 days CENEGAS will absorb the relevant natural gas pipeline and storage assets and operating responsibilities previously held by PEMEX.

**National Hydrocarbons Commission**

The National Hydrocarbons Commission (CNH) was created in 2008 as an organization aligned with SENER, but with technical autonomy to regulate and supervise the exploration and production of hydrocarbons in Mexico. CNH’s major responsibilities include:

- Increase the recovery rate and maximize the volume of hydrocarbons extracted under economically viable conditions.
- Maintain a steady replacement of hydrocarbon reserves to support the energy security of the nation.
- Utilize the latest and most appropriate technology for exploration and production.
- Protect the environment from the impacts of exploration and production activities and minimize the flaring and venting of gas during production operations.
- Maintain industrial security in the hydrocarbon industry.

The energy reform legislation of 2013-14 has strengthened CNH by granting it further independence from SENER, including management and budgetary independence. CNH is the lead agency for the management and execution of public biddings, signing and administration of E&P contracts under the new legal regime. CNH has a budget of USD $253 million in 2014.

**National Hydrocarbons Information System**

This database is developed together by SENER, CNH and PEMEX. It is a repository of information on the hydrocarbons industry in Mexico, created to centralize and modernize the presentation of disparate datasets and to comply with the transparency obligations introduced into law, particularly those opening the sector to greater private sector involvement associated with the recent reforms. It includes resource data, maps, inspections, reserve estimates, registers of operators and contractors, geologic information and many other pieces of information.
FEIP

The Petroleum Revenue Stabilization Fund (FEIP) is a public trust fund created within SHCP as part of the energy reforms. This fund’s revenues will include royalties charged to PEMEX, oil and non-oil tax revenues, and returns from financial instruments used to hedge hydrocarbon price volatility. This fund, the framework of which was established prior to 2007, is intended to serve a critical stabilizing function for government expenditures in the face of economic shocks, particularly those impacting hydrocarbons revenue such as exchange rate fluctuations or commodity price changes. It will serve to allow Mexico to meet its balanced budget rules in the face of such shifts and shocks. This also has important ramifications for capital spending in the hydrocarbons sector, particularly for PEMEX, which has historically faced volatility in balancing its obligations to meet government revenue targets with its long-term capital needs to maintain or grow production levels.

CFE

CFE is also a major actor in the area of natural gas pipelines in Mexico. Besides PEMEX, CFE is the other major state operator of gas pipelines, growing out of its requirements to fuel its many power plants.
Energy Reforms and Rounds Zero and One

In the hydrocarbons sector, the recent energy reform process creates a new public and private investment model for the exploration and production of oil and gas resources. PEMEX, along with CFE, are redesignated as “public productive enterprises” receiving more autonomy in decision making, while also facing the opening of previously protected markets for their activities. The government may directly sign contracts with private parties under a number of new commercial structures. The reform also creates the Mexican National Petroleum fund, a sovereign wealth fund that will manage the petroleum income received by the state across the new broader environment of public and private actors. Between them CENACE and CENEGAS will serve as independent system operators for the electrical and pipeline activities, respectively. CNH will oversee the markets for hydrocarbons production and exploration and CRE will oversee downstream activities.

The government has a formal process underway for allocation of the development of existing and potential hydrocarbons resources, designated by “rounds”. The first round was Round Zero. In this round, PEMEX was given the opportunity to propose what assets it wished to keep control of. PEMEX requested 83 percent of Mexico’s 2P reserves – 20.6 billion b.o.e. - and 31 percent of prospective reserves - 34 billion b.o.e. The government awarded 100 percent of the 2P reserves requested, but only 68 percent - 23.5 billion b.o.e. of prospective reserves, of which 5.2 billion b.o.e are unconventional. The awards to PEMEX were to achieve several strategic goals. First, the government intended to give PEMEX sufficient resources to maintain a production level with replacement of at least 2.5 million b.p.d. for 20.5 years. Second, PEMEX was to be awarded prospective reserves in areas where it was technically proven capable of realizing production. Third, PEMEX was to receive some amount of more challenging deepwater and tight hydrocarbon reserves so that the company could undertake partnerships enabling technology transfer to strengthen its capabilities to exploit these more challenging resources independently in the long-term. Finally, the significant potential reserves remaining will serve to create opportunities attractive enough in terms of scale to bring in major foreign companies with state-of-the-art practices and technology to allow Mexico to unlock the substantial reserves in the most challenging geographies, enabling increases in national production that PEMEX could not achieve.
While PEMEX is already a major buyer of goods and services from U.S. firms, the Round Zero awards to PEMEX will improve the market for U.S. companies in several ways. The decision gives PEMEX certainty over their long-term assets generally and should free up decision making on capital projects that may have been delayed due to uncertainty. The unconventional assets, now specifically identified for PEMEX exploitation, will allow companies to approach PEMEX to offer goods, services and partnerships unique to these assets.

Round One, which will begin the process of introducing the private sector to develop the uncommitted assets, was initiated by the government on August 13, 2014. Key steps are as follows:

August 13, 2014 through November 2014

- Announcement of Round One
- Feedback on the proposed regions
- Definition of the form, terms, and technical conditions of the contracts (by SENER)
- Definition of the financial conditions and evaluation criteria (by SHCP)

Through January 2015

- Publication of the tender drafts (by CNH)
- Feedback on the terms and conditions (by potential bidders)
- Preparation of the data room (by CNH)
- Social Impact Assessment (by SENER from October)
- Migration of CIEP and COPF to CEE (11 contracts)
February through April 2015

- Initiation of tenders (by CNH)
- Opening of the data room (by CNH)

May through September 2015

- Contract awards (by CNH)

November 2014 through December 2015

- Associations (farmouts) with PEMEX in the areas of mature fields, extra heavy crude and deepwater resources

The assets opened to Round One are illustrated generally in the accompanying map. They show assets classified according to exploration, development/extraction and associations or contracts with PEMEX.

Figure 90: Hydrocarbon Assets in Round One of the Energy Reform Process
The commercial structure for foreign firms operating in the oil and gas sector in Mexico is changed fundamentally by the energy reform. While the reforms are clear that hydrocarbons remain the property and purview of the Mexican state, the structure for private participation is changed fundamentally. Historically, foreign companies participating in Mexico’s oil and gas sector would do so through performance-based contracts with PEMEX. Three new contract types have been introduced:

1. **Profit-sharing:** Companies can receive a percent of profits from oil and gas development, and report projected future revenue as a percent of expected profit.
2. **Production-sharing:** Companies may have a form of title to a percentage of resource volume as it is produced. This will allow foreign firms to account for reserves as an asset, an important incentive.
3. **Licenses:** Companies may be paid in the form of the oil and gas resources extracted on a per-project basis, also allowing the claiming of reserves as in production-sharing arrangements.

Profit sharing is the arrangement expected for lower risk projects, and licensing and production-sharing the likely forms used for the riskier and more capital and technology intensive activities.

**Figure 91: Shale Gas Regions in Mexico**

**Sector Objectives**

The U.S. Energy Information Administration (EIA) has fundamentally revised its projections for Mexico, taking into account the expected impacts of energy sector reforms. From a decline to 1.8 million barrels per day of production, the forecast is now for 2.9 million barrels per day by 2020, up to 3.7 MMbbl/d by 2040.

October 2014
SENER has established several strategic quantitative goals for the sector through 2018:

- Increase production of crude oil by PEMEX E&P from 2.54 Mbd to 2.68 Mbd.
- Increase production of natural gas by PEMEX E&P from 5.67 million cubic feet per day to 5.42 Mcf/d.
- Increase PEMEX Refining’s production of refined gasoline, kerosene, and diesel fuels as a percent of crude processed from 65.7 percent to 73.2 percent.
- Increase the capacity of PEMEX refining’s pipeline system from 19,000 barrels per day to 547,000 barrels per day.
- Development by PEMEX Gas and Basic Petrochemicals of capacity additions to the National System of Gas Pipelines of 785,000 cubic meters.
- Increase the recycling of water in PEMEX processes from 36 million cubic meters per year to 62 million cubic meters per year.
- Increase local content of goods and services in PEMEX contracts from 41.5 percent per year to 43.1 percent per year.
Selected Projects

New Natural Gas Pipelines

<table>
<thead>
<tr>
<th>Project Type:</th>
<th>Natural Gas Pipelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>State(s):</td>
<td>Texas (USA), Multiple</td>
</tr>
<tr>
<td>Projected Investment:</td>
<td>USD $</td>
</tr>
<tr>
<td>Timeline:</td>
<td>2014 - 2018</td>
</tr>
<tr>
<td>Project Sponsor(s):</td>
<td>CFE</td>
</tr>
</tbody>
</table>

Mexico is undertaking a strategic shift in its primary fuel for thermoelectric power generation from fuel oil to natural gas. The development of many new natural gas-fired power plants is paralleled by the construction of a substantial network of new natural gas pipelines that will provide the fuel. This network is oriented towards importing natural gas from the United States, which the EIA projects will see production rise from 24 to 37.5 trillion cubic feet per year by 2040. The new constructions are also designed to provide gas supply to areas of the country that currently do not have pipeline networks.

The current natural gas pipeline infrastructure in Mexico measures over 7,000 miles, with diameters measuring from 16” to 48” and a capacity of 9,000 million cubic feet per day. The energy reform process is expected to create a new National Gas Pipeline System that will be administered by the new system operator and regulator, CENEGAS. Natural gas pipelines in Mexico will fall into one of three categories: economic pipelines, serving a specific customer; strategic pipelines which create a trunk network of natural gas pipeline infrastructure for the country, and; social pipelines that provide natural gas to users in states where the markets for gas are not yet commercially viable, such as in Oaxaca, Chiapas and Guerrero. This will include integration of a number of gas pipelines currently part of the PEMEX system.
Figure 94: Natural Gas Pipelines in Mexico, Present or Under Construction in 2014

A substantial portion of the new gas pipeline capacity to be built in Mexico is under construction, in tender or in the final stages of preparation for tender as of the fourth quarter of 2014. These segment projects are described below, moving generally north to south across the country.

Waha to San Elizario

This new gas pipeline will be located entirely in the United States, but is a CFE project and a key link in Mexico’s gas pipeline strategy. It will originate at the major natural gas pipeline hub and storage facilities at the Waha Basin in Pecos County, West Texas and run approximately 225 miles northwest to San Elizario, Texas, where it will interconnect to the future San Isidro to Samalayuca pipeline that is under construction. It will measure 42” in diameter and have a capacity of 1,475 million cubic feet per day and connect to at least 10 existing pipelines in the vicinity of Waha. The delivery pressure at the border is to be 1,145 psig. The project procurement will include design, engineering, supply of all materials and components, construction, and 25 years of operation and maintenance. At the end of the operating contract term, the transport services contractor will enter into a joint venture agreement in which CFE will own 49 percent of the equity. The alignment will include a fiber optic line to support pipeline operations, including real time metering, performance and security data, which will be part of the contract. Construction is expected to begin in January of 2015 and operations in January of 2017. The RFP process was underway as of October of 2014 with proposals expected November 14, 2014. The total expected
investment in this project is **USD $550 million**. Inquiries about this project may be directed to CFE at waha.pipelines@cfe.gob.mx.

**Waha to Presidio/Ojinaga**

This new gas pipeline will be located entirely in the United States, but is also a CFE project. It will originate at Waha Basin and run to the border at Presidio, Texas where it will connect with the Ojinaga to El Encino gas pipeline that is under construction. This pipeline will run 145 miles, with a diameter of 42”, capacity of 1,350 million cubic feet per day, and delivery pressure at the border of 1,440 psig. The procurement terms, timeline and construction are the same as for the Waha to San Elizario pipeline. The total expected investment in this project is **USD $400 million**. Inquiries about this project may be directed to CFE at waha.pipelines@cfe.gob.mx.

**Ojinaga to El Encino**

This pipeline will run from the new connection at Ojinaga southwest 186 miles to El Encino, entirely in the State of Chihuahua. This pipeline will be 42” in diameter and will be able to transport up to 1,350 million cubic feet of gas per day. Proposals were due to CFE in October of 2014, awards to be made by the end of 2014, and construction is planned to finish in 2017. Bidding was extremely competitive, with six firms shortlisted on technical proposal merit out of 26 contenders as of October of 2014: Transportadora de Gas Natural del Noroeste (TransCanada); Fermaca Pipeline Ojinaga; Omega Construcciones Industriales; Gasoducto de Aguaprieta; and two consortiums: Enagás and Elecnor (Spanish, affiliated with Abengoa); and Promotora del Desarrollo de América Latina, Energy Transfer Mexicana, Energías de México and Grupo Carso.

As with the prior projects, this pipeline is being procured through a design-build-operate structure, with a 25-year operating contract. This project also requires the bidders to bring to the table all necessary financing to support design, construction, and operations. National content requirements apply to the pipeline tubing specifically, with 50 percent of the total length required to be of Mexican origin. This pipeline is to be designed to operate in either direction if required. Cost proposals are to contain a detailed proposal for the tariff.

October 2014
structure the operator will charge for use of the pipeline. The bidders will be responsible for constructing and operating the SCADA systems and primary and alternate control centers, incorporating redundant OLE Process Control Servers that are interoperable with CFE systems. This pipeline will include a fiber optic communications line supporting voice communications and data connections for the SCADA system, with a 500 Kbps capacity and an interconnection through RJ45 cabling enabling connection of the pipeline system to the CFE SCADA system. The total investment in this segment is expected to be USD $400 million.

**El Encino to La Laguna**

This new pipeline will serve to connect the new pipeline terminating at El Encino and will carry gas approximately 250 miles south to the La Laguna region in Durango (La Laguna is the cluster of cities including Torreón, Gómez Palacio and Ciudad Lerdo and it is the ninth largest metropolitan area in the country). This pipeline will have a diameter of 42” with a maximum capacity of 1,500 million cubic feet per day. The technical scope and procurement terms will be similar to the previously described pipeline projects, with a 25-year operating concession. Capacity on the pipeline will initially be used by CFE to support power generation, however it is anticipated that “open season” mechanisms will be used to offer capacity on the pipeline directly to industrial users. This project was open to bid in mid-2014 and proposals are due in the fourth quarter of 2014, with construction to begin in 2015 and conclude in early 2017. The total investment in this new pipeline is expected to be USD $650 million.

**Waha to Samalayuca**

This 186-mile long pipeline, measuring 42” in diameter with a capacity of 1,450 million cubic feet per day, is designed to be a primary source of gas for the Norte III combined cycle natural gas burning thermoelectric power plant to be built 19 miles south of Ciudad Juarez in Chihuahua at a site called Samalayuca Sur. Installed net capacity of this facility will be 788 MW. Tenders are scheduled for 2014 and operations by mid-2016. The total investment is projected to be $541 million.

**Branch Line to Villa de Reyes**

This new pipeline will provide natural gas supply to the thermoelectric plant at Villa de Reyes and the combined cycle...
plants San Luis Potosí I and II which will enter service in 2020 and 2024, respectively. This line will be 11 miles long, 24” in diameter, with a capacity of 276 million cubic feet per day. This branch will initially connect to the Los Ramones (Phase II) pipeline, and later be connected to the pipeline Aguascalientes – Villa de Reyes – Tula that will enter service in 2017. Bidding will occur in the fourth quarter of 2014, awards are to be made in January of 2015, operations are to begin by the end of 2015. The estimated total investment in this project is USD $30 million.

Additional Gas Pipeline Projects

An additional $11 billion of projected investment is identified in the PNI, associated with the following natural gas pipeline projects. Among these is a 99-mile pipeline between Ehrenberg, Arizona and San Luis Río Colorado in Sonora. This pipeline is to be 24” in diameter, it will be designed to carry 130 million cubic feet of gas per day and should enter operations in 2017.

### Table 47: Natural Gas Pipeline Projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Beneficiary State(s)</th>
<th>Length (Miles)</th>
<th>Millions of USD</th>
<th>Bidding</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mérida - Cancún</td>
<td>Quintana Roo, Yucatan</td>
<td>186</td>
<td>461</td>
<td>2014</td>
<td>2016</td>
</tr>
<tr>
<td>Supply to Baja California Sur</td>
<td>Baja California Sur, Sinaloa</td>
<td>N/A</td>
<td>596</td>
<td>2014</td>
<td>2017</td>
</tr>
<tr>
<td>S. Texas Submarine to Tuxpan</td>
<td>Tamaulipas, Veracruz</td>
<td>388</td>
<td>2,977</td>
<td>2014</td>
<td>2018</td>
</tr>
<tr>
<td>Tula - Villa de Reyes</td>
<td>Aguascalientes, Hidalgo, Jalisco, and San Luis Potos</td>
<td>173</td>
<td>417</td>
<td>2014</td>
<td>2017</td>
</tr>
<tr>
<td>Tuxpan - Tula</td>
<td>Hidalgo, Veracruz</td>
<td>247</td>
<td>397</td>
<td>2014</td>
<td>2017</td>
</tr>
<tr>
<td>Samalayuca - Sásabe</td>
<td>Chihuahua, Sonora</td>
<td>347</td>
<td>834</td>
<td>2014</td>
<td>2017</td>
</tr>
<tr>
<td>Colombia - Escobedo</td>
<td>Nuevo León</td>
<td>555</td>
<td>372</td>
<td>2015</td>
<td>2017</td>
</tr>
<tr>
<td>Jaltepe - Salina Cruz</td>
<td>Oaxaca</td>
<td>153</td>
<td>641</td>
<td>2015</td>
<td>2017</td>
</tr>
<tr>
<td>Los Ramones - Cempoala</td>
<td>Nuevo León, Tamaulipas, Veracruz</td>
<td>531</td>
<td>2,005</td>
<td>2013</td>
<td>2017</td>
</tr>
<tr>
<td>Villa de Reyes - Aguascalientes - Guadalajara</td>
<td>San Luis Potos, Aguascalientes, Zacatecas, Jalisco</td>
<td>221</td>
<td>551</td>
<td>2015</td>
<td>2018</td>
</tr>
<tr>
<td>La Laguna - Centro</td>
<td>Durango</td>
<td>373</td>
<td>889</td>
<td>2015</td>
<td>2018</td>
</tr>
<tr>
<td>Lázaro Cárdenas - Acapulco</td>
<td>Michoacán, Guerrero</td>
<td>206</td>
<td>454</td>
<td>2013</td>
<td>2018</td>
</tr>
<tr>
<td>Salina Cruz - Tapachula - Central America</td>
<td>Oaxaca, Chiapas</td>
<td>273</td>
<td>441</td>
<td>2015</td>
<td>2018</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>3,257</strong></td>
<td><strong>$11,287</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Project Contacts

<table>
<thead>
<tr>
<th>U.S. Trade and Development Agency</th>
<th>U.S. Commercial Service Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Keith Eischeid, Country Manager for Mexico and Central America</td>
<td>Ms. Karen Allen, Commercial Officer</td>
</tr>
<tr>
<td>Tel. +1-703-875-4357, <a href="mailto:KEischeid@ustda.gov">KEischeid@ustda.gov</a></td>
<td>+52 (55) 5080-2195, <a href="mailto:Karen.Allen@trade.gov">Karen.Allen@trade.gov</a></td>
</tr>
<tr>
<td></td>
<td>Mr. Francisco Ceron, Commercial Specialist: Energy &amp; Water</td>
</tr>
<tr>
<td></td>
<td>+52 (55) 5080-2000, ext. 5211, <a href="mailto:Francisco.Ceron@trade.gov">Francisco.Ceron@trade.gov</a></td>
</tr>
</tbody>
</table>

### Diverse Oil and Gas Sector Projects

The PNI identifies over USD $251 billion worth of investment activities to be realized in this sector, including exploration, production and refining. Many of these are not discrete projects, but rather broad investment categories that will create a huge range of commercial opportunities for the provision of goods and services by U.S. companies through 2018.
USD $89 billion is expected to be invested in exploration and production activities across wide regions of the country: a national tranche of USD $40.5 billion is to be spent in partnership with state and federal entities. USD $25.5 billion is to be spent in the south-southeastern regions. Another USD $23.3 to be spent in the northern region. The next tranche of USD $80.3 billion involves exploration and production activities at specific major fields. At KMZ USD $18.9 billion is to be spent on operation and maintenance of existing wells, exploration of shallow water resources and associated exploration and development infrastructure. At Cantarell, USD $17.8 billion will be spent in shallow water exploration activities, sustainment and rehabilitation of existing production wells, nitrogen and sour gas injection as a component of enhanced recovery activities, natural gas recovery infrastructure, and dewatering technology. In the fields of Tsimin-Xux in Tabasco and Campeche USD $7.8 billion will be spent on exploration wells, remediation of exploratory wells, and diverse production infrastructure. At Chuc, also in Tabasco and Campeche USD $7.7 billion will be spent on operation and maintenance of existing production wells, new exploratory wells, modernization of infrastructure, and application of enhanced recovery methods. USD $6 billion will be spent on the Aceite Terciario in the Gulf project in the States of Veracruz and Puebla. This will include investments in maintenance of existing wells and production infrastructure, new exploration wells, and infrastructure for the handling, transport and storage of product. Another USD $6 billion will be spent on the Antonio J. Bermúdez project on operation and maintenance of existing wells, implementation of an electric centrifugal pumping system, new exploration wells, and petroleum transportation infrastructure. In the states of Campeche and Tabasco, USD USD $5.3 billion will be spent on a project focused on shallow water light crude extraction, including operation and maintenance of existing wells, new exploration wells and implementation of enhanced recovery systems. In Tamaulipas $4.9 billion will be invested in the Área Perdido project which will involve exploration activities in deepwater regions. In the Burgos region in Tamaulipas, Nuevo León and Coahuila USD $3.8 billion will be spent to develop natural gas resources through a mix of maintenance and improvement of existing production infrastructure as well as drilling of exploration wells and construction of gas pipelines. At Yaxche in Tabasco and Campeche USD $3.8 billion will be spent on operation and maintenance of existing wells, drilling of new exploratory wells and construction of marine structures and gas and oil pipelines. At Campeche East USD $3.4 billion will be spent on drilling of exploratory wells and 3D seismic studies.

Two major refinery projects will support the conversion of the refineries at Tula in Hidalgo and Salamanca in Guanajuato to process lighter grades of crude and produce higher quality value-added refined products. These projects will create investments worth USD $6.7 billion to occur in the period 2015 – 2018. At Veracruz USD $406 million will be spent to reconfigure existing refinery infrastructure to increase the production of benzene and paraxylene. Another USD $313 million will be invested into the ethylene production infrastructure at the Morelos Petrochemical Complex. The system will be improved to enable production of diverse polyethylene products, ethylene oxide, and glycols. A new polymer laboratory will be built and capacity for storage and distribution will be increased. This project will be completed by 2017.