Prepared under contract by:

The Seneca Group LLC
500 New Jersey Avenue NW, Fourth Floor • Washington, DC 20001
Tel. +1 (202) 783-5861 • www.seneca-llc.com

OCTOBER 2014

This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U.S. Government. The opinions, findings, conclusions, or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report.
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.
3.3 Water and Environment

Sector Background

Mexico’s population has risen from 15 million in 1910 to nearly 114 million persons by 2010. This growth rate has been marked by a rapid rate of urbanization and industrialization, and the accompanying exploitation of natural resources. Major urban areas struggle with quality of the air and water resources.

**Figure 50: Economic and Population Growth, Pollution, and Deforestation Rates 1990 - 2010**

Water Supply and Management

Mexico’s physical, social and economic geography, climate and terrain present a range of challenges in the area of water supply and management. The north-central region of the country, accounting for 77 percent of the population and 79 percent of gross national product holds only 32 percent of the national water resources. The southern regions of the country hold 68 percent of the water resources. The demand on the water resources in the respective regions is also imbalanced. In the south extraction is 4 percent while in the north-central regions is as high as 47 percent, classified as heavy pressure on the resource. The Valley of Mexico represents an extreme situation, where consumption is 33 percent greater than the immediate resources. Since 1950, the volume of water resources per capita have dropped from 17,742 cubic meters per year to 4,090. As of 2011, some 101 of the 635 primary aquifers in Mexico were considered overexploited. While provision of potable water to the population has reached 92 percent for the country as a whole, in many rural areas, such as the
states of Guerrero, Oaxaca and Chiapas, coverage is less than 80 percent of the populations. The long-term sustainability of resources for clean drinking water is a strategic concern for the country.

The largest use of water in Mexico is for agriculture at 76.6 percent of extraction (63.3 billion cubic meters per year), primarily for irrigation. Despite significant investments, only 55 percent of irrigated lands have had their irrigation systems brought to present day technical and performance standards. After farming, 14.5 percent of water use is for public consumption, 4 percent is extracted by industry for their internal use and 4.9 percent is used in the course of generation of electricity (excluding hydroelectric generation).

As of 2010, Mexico had an infrastructure of 4,462 facilities, reservoirs of a wide range of volumes and containment technologies (dam types) totaling 150 cubic kilometers of water storage capacity.

Currently, Mexico only has the capacity to treat 47.5 percent of collected municipal wastewater. The balance of collected wastewater, plus the uncollected sewage and runoff, flows directly into reservoirs, rivers, lakes and the ocean without treatment. The wastewater treatment infrastructure in Mexico, like other aspects of water resources, is imbalanced. The infrastructure consists of 2,289 municipal water treatment plants and 1,627 water quality measurement sites.
Figure 52: Municipal Wastewater Treatment Rates by Mexican States, 2011
Figure 53: Drinking Water Filtration Plants in Mexico by Capacity
Solid Waste

Mexico generates roughly 37.6 million tons of municipal solid waste per year. Of this amount, only an estimated 84 percent is collected and disposed of in an organized manner through formal facilities. Rates of organized disposal vary among states, with Baja California Sur, Guerrero, and Puebla having rates below 50 percent. Sanitary landfills are predominantly operated by local municipalities or states. Some local authorities (50 cities) operate landfills using private partners, under contracts ranging up to 20 years in duration, and this contracting is a growing industry in Mexico.

Within the formal waste management system, only 61 percent of facilities are formal landfills, while another 16 percent are unmanaged open disposal pits. Only 13 of 32 Mexican states implement large scale recycling through their solid waste disposal systems. Mexico has aggressively developed its landfill infrastructure. From 1995 to 2012 the number of modern sanitary landfill facilities rose from 30 to 260, primarily in the largest cities. 90 percent of large cities are considered to have adequate systems for disposal of municipal solid waste as compared to 13 percent of rural and semi-urban locales. Accordingly, there exists a significant gap that will need to be filled in terms of both more sophisticated municipal solid waste facilities – capable of recycling and conversion of wastes – and in establishment of many more new modern sanitary landfills, in particular to serve smaller urbanizations and rural areas. The Government of Mexico has identified recycling and conversion of...
solid wastes as a specific area where steps can be taken to achieve greenhouse gas emissions goals and to improve the efficiency of the economy. Mexico currently only recovers roughly 11 percent out of the solid waste generated, much lower than the average in Europe in the United States, which achieve rates of greater than 30 percent. Approximately 38 percent of Mexico’s municipal solid wastes are organic, a resource for renewable energy generation which is only beginning to be tapped.

In 2003, Mexico passed a key statute, the Law for Prevention and Integral Management of Waste. This law categorized wastes and clarified the level of government responsible for each category:

- Municipal solid waste – responsibility of the municipal governments;
- Industrial and special waste – responsibility of the state governments;
- Hazardous waste – responsibility of the federal government.

The law classifies waste generation electricity plants by volume of waste (micro: <= 400 kilograms/year; small: 400 kg. – 10 tons/year; large 10+ tons/year) and mandates modern multi-stream processing and recycling. The implementing regulations include the official technical standard for municipal landfills in accordance with international standards for location and containment of waste, NOM-083-SEMARNAT-2006. To date, only 35 percent of landfills meet these standards. This is key to business opportunities in the sector as compliance is a requirement for many federal support and incentive programs.

One major tool that SEMARNAT deploys is a matching grant program for urban solid waste handling projects. Since 2009, over USD $146 million in grants have been awarded to state and local units of government under this program. Eligible purposes include planning for new landfills or to expand and bring existing waste disposal sites to modern standards; new trash trucks; processing and transloading equipment; and closure and remediation of waste disposal sites. As of August of 2014, SEMARNAT had made annual program awards of USD $56.5 million, allocated by project types below:

<table>
<thead>
<tr>
<th>Expenditure Item</th>
<th>Grant</th>
<th>As %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garbage Trucks</td>
<td>38,044,797</td>
<td>67%</td>
</tr>
<tr>
<td>Landfill Construction</td>
<td>7,012,413</td>
<td>12%</td>
</tr>
<tr>
<td>General Equipment</td>
<td>4,875,378</td>
<td>9%</td>
</tr>
<tr>
<td>Loading/Transfer Equipment</td>
<td>3,012,748</td>
<td>5%</td>
</tr>
<tr>
<td>Closure and Remediation</td>
<td>1,957,651</td>
<td>3%</td>
</tr>
<tr>
<td>Landfill Expansion</td>
<td>751,692</td>
<td>1%</td>
</tr>
<tr>
<td>Unidentified</td>
<td>461,538</td>
<td>1%</td>
</tr>
<tr>
<td>Project Planning Studies</td>
<td>338,500</td>
<td>1%</td>
</tr>
<tr>
<td>State-Level Waste Management Plans</td>
<td>79,615</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$56,534,334</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 34: SEMARNAT 2014 Solid Waste Grant Program Expenditures by Investment Type

A disproportionate amount of this 2014 amount was for a single project, USD $35 million for a fleet of garbage trucks in Jalisco. The balance was spread broadly across small projects in 14 different states.

Opportunities for U.S. firms in this sector exist in particular for capital equipment, such as the aforementioned trash trucks, particularly trucks capable of handling segregated wastes, but also heavy equipment for the
movement and processing of garbage including: loaders; cranes; sorting, shredding, and crushing machinery; conveyors; pumps, membranes, contaminant detection, and wastewater treatment technologies; and technologies for the capture, storage, and generation of electricity and thermal energy from biogas. Asset and fleet management and communications technologies and maintenance equipment are necessary to support the operation of trash collection vehicle fleets.

**Hazardous Materials**

Finally, Mexico faces a significant challenge in the area of disposal of hazardous materials and remediation of contaminated sites. As described previously, hazardous materials disposition is a federal responsibility. The national register records 582 contaminated sites, the greatest number being located in Guanajuato, Veracruz and Querétaro. Of these “hazmat” sites 55 percent are landfills, 13 percent represent mineral extraction sites, 11 percent are industrial sites, and 3.4 percent are petroleum extraction or petroleum product processing locations. Of these 582 registered sites only 1.5 percent (9) have been remediated, only 3.4 percent (20) are undergoing remediation, leaving 95 percent, or 558 sites, yet to be remediated. This indicates a substantial potential of market opportunities for U.S. firms, in particular for the provision of innovative and specialized remediation technologies.

![Figure 55: Contaminated Sites for Remediation in Mexico Registered by SEMARNAT](image)

**Government Role**

The government recognizes the challenges in the water and environment sector as a significant component of national competitiveness. These forces also disproportionately impact the rural and indigenous communities in Mexico. Strategically, the goal of the government is to enable Mexico to establish and follow a development model that will enable a sustainable economic growth rate that will reduce poverty rates while improving the quality of life for its citizens, without exhausting the base of natural resources on which future generations will depend. The government has demonstrated its commitment to aggressive and progressive environmental
resources management by nearly doubling the budget for the cabinet agency for the environment, SEMARNAT, between 2000 and 2013, to USD $4.3 billion, with a heavy focus on forest and water management activities.

**SEMARNAT**
The lead agency in the Mexican federal government in this area is the Secretariat for the Environment and Natural Resources (SEMARNAT by its Spanish acronym). SEMARNAT has a broad portfolio including environmental standards-setting, protection of the environment and environmental policy establishment. Each state has a SEMARNAT local office. Among SEMARNAT’s responsibilities is the performance of environmental due diligence on, and approval of, large infrastructure projects that have potential to impact the environment. The agency publishes a regular “Ecological Gazette” that identifies all the major projects submitted to SEMARNAT for evaluation, identifying the sponsor, briefly describing the project and its location, and where it stands within the evaluation process.

**CONAGUA**
An operating unit organized under cabinet agency SEMARNAT, the National Water Commission (CONAGUA) traces its foundations back to 1917 when the federal role in water management began under the Directorate of Waters, Lands and Colonies. CONAGUA’s role is to administer and preserve the water resources of Mexico, enabling sustainable use of this resource for the benefit of the people. CONAGUA’s responsibilities cover all aspects of water use and management, including public residential and industrial, agricultural use, use of water in power generation, provision of potable water and water treatment, treatment of wastewater, and preservation of water resources in aquifers and watersheds. CONAGUA is responsible for flood prevention, mitigation and response, and also operates strategic water assets. CONAGUA establishes policy and administers programs, managing the application of national budgetary resources to different water activities. The Commission has a hierarchical structure, operating through 13 national aquifer districts, below which local directorates are responsible for application policies and field implementation of programs and actions.
CONAGUA channels federal funding to local water districts (“operating entities”) to support their development and management of water infrastructure, typically on a cost-sharing basis, including through provision of technical assistance including planning. CONAGUA is also a standards setting and enforcement agency, establishing norms in all areas of water management.

The Commission is responsible for preparation of the National Hydrologic Plan, a sector-specific plan that is subsidiary to the National Development Plan, setting out the six-year plan of national strategic goals in the sector, establishing benchmarks and quantitative objectives, and identifying key strategic investment projects to be accomplished during the period in support of those goals and objectives.

**Strategic Goals for the Environment Sector**

The government has set several strategic goals in this sector for achievement by 2018.

They intend to increase coverage of potable water to the population from 92 percent to 94 percent, and increase the number of the population living in homes with direct public water service from 104.9 million to 114.1 million. Productivity in the irrigation districts is to be increased from 1.62 kilograms of agricultural production per cubic meter of irrigation water to 1.87 kilograms. Municipal wastewater treatment coverage of the population is to be increased from 47.5 percent to 63 percent. The index of municipal solid waste management, a ratio of volume of waste treated and disposed of in an integrated manner, to total wastes produced, will be increased from 70 percent to 83 percent.

**Strategic Projects**

The PNI identifies 84 discrete projects in the water sector to be completed or begun by 2018. These PNI projects range from broad programs of support, to discrete capital projects, to funding for feasibility studies. In terms of scale, the largest is a regional program of USD $19.4 billion and the smallest water projects detailed in the PNI.
are under USD $1 million in total investment. Many of these PNI projects have a broad scope, covering multiple system components and functions, such as storage, transmission and distribution of waters, combined with treatment processes. Several PNI projects exceeding USD $100 million in value are profiled in detail below, as cross referenced with CONAGUA’s strategic project portfolio.
Mexico City’s Eastern Transmission Tunnel

Project Type: Wastewater Transmission  
State(s): Mexico and Hidalgo States  
Projected Investment: USD $2.9 billion  
Timeline: 2008 – 2018  
Project Sponsor(s): CONAGUA, Mexico State, Mexico City

This megaproject is constructing a 23-foot diameter tunnel that will carry wastewater and stormwater away from the urban center of Mexico City. This is one of several water megaprojects designed to deal with increasingly severe flooding that has plagued large parts of Mexico City. The tunnel origin is at the confluence of the Great Drainage Canal and the Río de los Remedios, located at the border of the Federal District with the State of Mexico, approximately two miles north of the airport. This new tunnel will add a badly needed 150 cubic meters per second of capacity to the city’s drainage system.

This piece of infrastructure will extend 38 miles, running as deep as 420 feet beneath the ground, with 24 service tunnels, terminating at the Municipality of Atotonilco in Hidalgo State. There the waters will be treated by the new large-scale treatment plant nearing completion, and then directed to support irrigation for agriculture in the Valley of Tula.

This project began in 2008 and is scheduled for completion in 2018. The tunnel project works are broken into 6 segments that are being constructed in parallel. Contracts have been awarded, and are divided by segment among some of the largest Mexican public works contractors: Grupo ICA, Grupo Carso, Cotrisa and CESA/Lombardo. 

Figure 57: Plan View of the Alignment of the Eastern Transmission Tunnel
Major Infrastructure Projects in Mexico

October 2014

The PNI provides a total investment value of this project of USD $2.9 billion. Within this amount, CONAGUA identifies USD $1.1 billion as coming directly from the federal government’s budget and another USD $504 million split between Mexico City and Mexico State from the 1928 Trust Fund, a regional water infrastructure fund supported by CONAGUA.

Project Contacts

<table>
<thead>
<tr>
<th>Project Sponsor(s)</th>
<th>U.S. Trade and Development Agency</th>
<th>U.S. Commercial Service Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Rafael Carmona&lt;br&gt;Manager of Engineering and Special Projects&lt;br&gt;CONAGUA&lt;br&gt;<a href="mailto:rafael.carmona@conagua.gob.mx">rafael.carmona@conagua.gob.mx</a></td>
<td>Mr. Keith Eischeid&lt;br&gt;Country Manager for Mexico and Central America&lt;br&gt;Tel. +1-703-875-4357&lt;br&gt;<a href="mailto:KEischeid@ustda.gov">KEischeid@ustda.gov</a></td>
<td>Ms. Karen Allen&lt;br&gt;Commercial Officer&lt;br&gt;+52 (55) 5080-2195&lt;br&gt;<a href="mailto:Karen.Allen@trade.gov">Karen.Allen@trade.gov</a></td>
</tr>
<tr>
<td>Mr. Francisco Ceron&lt;br&gt;Commercial Specialist: Energy &amp; Water&lt;br&gt;+52 (55) 5080-2000, ext. 5211&lt;br&gt;<a href="mailto:Francisco.Ceron@trade.gov">Francisco.Ceron@trade.gov</a></td>
<td>Mr. Francisco Ceron&lt;br&gt;Commercial Specialist: Energy &amp; Water&lt;br&gt;+52 (55) 5080-2000, ext. 5211&lt;br&gt;<a href="mailto:Francisco.Ceron@trade.gov">Francisco.Ceron@trade.gov</a></td>
<td></td>
</tr>
</tbody>
</table>
## Monterrey VI Aqueduct

<table>
<thead>
<tr>
<th>Project Type:</th>
<th>Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>State(s):</td>
<td>Nuevo León</td>
</tr>
<tr>
<td>Projected Investment:</td>
<td>USD $1.4 billion</td>
</tr>
<tr>
<td>Timeline:</td>
<td>2014 - 2017</td>
</tr>
<tr>
<td>Project Sponsor(s):</td>
<td>CONAGUA, Servicios de Agua y Drenaje de Monterrey I.P.D.</td>
</tr>
</tbody>
</table>

This project is Presidential Commitment 034. It is being constructed to secure the water supply for the city of Monterrey in Nuevo León. With over 4.2 million inhabitants and population growth of more than 8 percent between 2007 and 2010, the city has faced the threat of water shortages as demand on local sources has increased rapidly. The new aqueduct will consist of 231 miles of 7-foot diameter piping, running from Río Tampaón in Veracruz north to the reservoir at Presa Cierro Prieto located southeast of the city of Monterrey. Over this distance the water will be raised by over 800 feet in elevation. Besides the piping, the project will include six pumping stations, six intermediate regulation and storage tanks and one 75,000 cubic-meter tank at the discharge point at Presa Cerro Prieto. This infrastructure is designed to carry 5 cubic meters of water per second to the city water supply.

The PNI identifies USD $1.4 billion in investment associated with this project. CONAGUA’s strategic project brief identifies this as a PPP with majority private sector participation. The National Infrastructure Fund (FONADIN) will provide approximately USD $228 million in project financing, while USD $192 million of costs are to be supported by private equity participation and another USD $767 from proceeds from debt. Managed in partnership between CONAGUA and Servicios de Agua y Drenaje de Monterrey (SAyDM), the construction award was made in August of 2014 to the consortium of Concreto y Obra Civil del Pacifico, Controladora de Operaciones de Infraestructura, Desarrollos Rogar, EECSA Concesiones and Productos y Estructuras de Concreto. Investment funds are expected to be secured by December of 2014, with all construction completed by December of 2017. For more information about this project, interested parties may contact Ing. Nicolás González Flores, Director of the Engineering Department at Servicios de Agua y Drenaje de Monterrey I.P.D., nicolas.gonzalez@sadm.gob.mx.

![Figure 59: Plan View of the Alignment of the Monterrey VI Aqueduct Project](image_url)
# Project Contacts

<table>
<thead>
<tr>
<th>Project Sponsor(s)</th>
<th>U.S. Trade and Development Agency</th>
<th>U.S. Commercial Service Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ing. Nicolás González Flores, Director of the Engineering Department Servicios de Agua y Drenaje de Monterrey I.P.D., <a href="mailto:nicolas.gonzalez@sadm.gob.mx">nicolas.gonzalez@sadm.gob.mx</a></td>
<td>Mr. Keith Eisheid Country Manager for Mexico and Central America Tel. +1-703-875-4357 <a href="mailto:KEischeid@ustda.gov">KEischeid@ustda.gov</a></td>
<td>Ms. Karen Allen Commercial Officer +52 (55) 5080-2195 <a href="mailto:Karen.Allen@trade.gov">Karen.Allen@trade.gov</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mr. Francisco Ceron Commercial Specialist: Energy &amp; Water +52 (55) 5080-2000 , ext. 5211 <a href="mailto:Francisco.Ceron@trade.gov">Francisco.Ceron@trade.gov</a></td>
</tr>
</tbody>
</table>
Presa el Zapotillo Drinking Water Supply Project

<table>
<thead>
<tr>
<th>Project Type:</th>
<th>Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>State(s):</td>
<td>Guanajuato</td>
</tr>
<tr>
<td>Projected Investment:</td>
<td>USD $1.23 billion</td>
</tr>
<tr>
<td>Timeline:</td>
<td>2009 - 2016</td>
</tr>
<tr>
<td>Project Sponsor(s):</td>
<td>CONAGUA</td>
</tr>
</tbody>
</table>

This project develops additional drinking water supply for the City of León in Guanajuato and the cities of Altos de Jalisco and Guadalajara, in Jalisco. The new infrastructure will serve to transfer 120 million cubic meters of water from the Río Verde watershed to support the overexploited Río Lerma watershed, balancing demand for water amongst regional resources.

![Plan View of Major Features](image)

Figure 60: Plan View of Major Features of the El Zapotillo Drinking Water Project

This project has multiple components: a new reservoir with a capacity of 911 million cubic meters will be contained by a new 340 foot dam; an 87-mile long aqueduct with a pipe diameter of 8 feet will have two pump stations to support the trajectory lift of over 1,800 feet, and; a storage tank of 100,000 cubic meters will be constructed. A drinking water treatment plan with capacity of 3.8 cubic meters per second will feed into over 25 miles of new primary water distribution mains, ranging between 84” and 12” in diameter, serving the City of León. The project also includes supporting infrastructure such as a 46 mile high-tension 115 KV electricity transmission line.

The project total investment identified in the PNI is USD $1.23 billion. CONAGUA’s project brief (typically excluding IVA) identifies USD $313 million in funding coming directly from the federal budget, USD $255 million from FONADIN, USD $15 million from Jalisco, USD $17 million from Guanajuato and USD $288 million from private sources. The USD $544 million from FONADIN and private sources is to fund the aqueduct and water...
treatment and distribution works, while the federal government and state shares will support the works associated with the dam and reservoir. Procurement from this project is subject to the Law on Public Works.

![Image of water distribution mains](image)

**Figure 61: New Water Distributions Mains in the City of León**

Procurement for the dam and reservoir works occurred in 2009. Construction was to be complete by 2014 but has been delayed and is not expected to complete until 2015 or 2016. The consortium awarding this component is composed of La Peninsular Compañía Constructora, S.A. de C.V.; FCC Construcción, S.A.; and Grupo Hermes, S.A de C.V. The construction of the aqueduct and other components is planned for 2014 – 2016 and will be performed by the consortium of Abengoa México, S.A. de C.V.; Abeinsa Infraestructuras Medio Ambiente, S.A. Sociedad Unipersonal; and Abeinsa, Ingeniería y Construcción Industrial, S.A. This project is led by CONAGUA.

**Project Contacts**

<table>
<thead>
<tr>
<th>Project Sponsor(s)</th>
<th>U.S. Trade and Development Agency</th>
<th>U.S. Commercial Service Mexico</th>
</tr>
</thead>
</table>
| Mr. Jose Chedid Abraham  
Director General of the Lermasantiago  
Pacific Watershed District Office  
CONAGUA  
Tel. +55 32 68 0200 ext. 1000  
jose.chedid@conagua.gob.mx | Mr. Keith Eischeid  
Country Manager for Mexico and  
Central America  
Tel. +1-703-875-4357  
KEischeid@ustda.gov | Ms. Karen Allen  
Commercial Officer  
+52 (55) 5080-2195  
Karen.Allen@trade.gov |
| Mr. Francisco Ceron  
Commercial Specialist: Energy & Water  
+52 (55) 5080-2000, ext. 5211  
Francisco.Ceron@trade.gov | | |

October 2014
## Atotonilco Sewage Treatment Plant

<table>
<thead>
<tr>
<th>Project Type:</th>
<th>Wastewater Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>State(s):</td>
<td>Hidalgo</td>
</tr>
<tr>
<td>Projected Investment:</td>
<td>USD $1.1 billion</td>
</tr>
<tr>
<td>Timeline:</td>
<td>2009 - 2015</td>
</tr>
<tr>
<td>Project Sponsor(s):</td>
<td>CONAGUA</td>
</tr>
</tbody>
</table>

The Valley of Mexico has historically presented a tremendous water management challenge in many respects. Mexico City itself sits atop a system of five ancient lakes and receives heavy, prolonged rainfalls during the wet season. The first large scale hydraulic works were built as early as the 15th century, with major drainage arteries constructed in the 17th century (the Nochistongo Cut or Canal), in 1900 (the Great Drainage Canal built during the Porfiriato), in 1964 (the Western Transmission Tunnel) and 1975 (the Central Emission Tunnel). The rapid growth of the city’s built environment has resulted in constant strain on the stormwater and sewage system that continues to this day. The extension of structures and infrastructure of the city has steadily reduced the surface area capable of absorbing water, contributing to runoff problems. The exhaustion of aquifers beneath the city have caused settling, which has changed historical drainage patterns. In some cases, drainage tunnels and canals that drained water out of the city by gravity have reversed their flows due to this effect, requiring installation of elaborate and expensive arrangements of pumps, locks and tanks to re-establish desired flows. During rainy seasons stormwater volumes regularly overwhelm the capacity of the system.

![Map of Atotonilco Sewage Treatment Plant](image)

**Figure 62: Flows to and from the Atotonilco Sewage Treatment Plant**

Today in the Valley of Mexico only between 6 percent and 11 percent of wastewater receives treatment, resulting in significant negative impacts on inhabitants of the watershed and the natural environment. This includes including irrigation districts supporting over 308 square miles of intensively farmed cropland used for...
production of alfalfa and corn. A particularly acute situation results during the rainy seasons when stormwater volumes routinely overwhelm the capacity of the system, causing flooding within the city, and large amounts of contaminated water to flow into the watershed and irrigation districts.

To address the challenge of water management, the government formalized in 2007 the Program for Hydrologic Sustainability for the Basin of the Valley of Mexico. This comprehensive document set out a strategic plan for the sustainable management and development of water supply, distribution, drainage, and treatment for the region. Major projects included in the plan are construction of the La Caldera pump station, expansion of the Cutzamala drinking water supply network, the aforementioned Eastern Transmission Tunnel and this new water treatment plant.

The Atotonilco Plant is a massive wastewater treatment facility, covering an area of over ¼ of a square mile, located north of Mexico City in the State of Hidalgo. This plant will be able to process 35 cubic meters per second of wastewater, arriving from the Central Transmission and the (new) Eastern Transmission wastewater tunnels that serve as major channels to evacuate wastewater from Mexico City and its surroundings. The nominal capacity of the plant for conventional treatment (activated sludge and chlorination) will be 23 cubic meters per second, with the outflows dedicated to agricultural irrigation. The plant has additional capacity, through a separate chemical treatment process train, followed by chlorination, to manage an additional 12 cubic meters per second of wastewater, meant to handle the surges of stormwater during the rainy season. The treated outflows from this second train will flow into the Ríos Tula and El Salto and the Presa Requena reservoir.

Figure 63: Conceptual Plan View of the New Atotonilco Wastewater Treatment Plant

This plant will include a number of accessory components. Anaerobic digesters will separate sludge gases, extracting methane to be stored and fed to an onsite biogas cogeneration plant that will meet more than 60 percent of the facility’s energy requirements. The balance of power will be provided by a 47,000 KVA connection to the national electrical grid, with substantial on-site emergency backup power generation capacity. A plant specific substation will manage the plant power system and balancing of inputs. A dedicated landfill will store the sludge left over following processing. The project plan includes improvements to roads and bridges,
including flyovers and bypasses, to prevent the activities of the plant and associated traffic from interfering with road and rail traffic in the area. A new rail spur will be constructed to enable the plant to receive operating supplies, in particular chemicals for treatment processes.

This facility will bring the wastewater treatment rate for the valley to more than 60 percent and ameliorate the regular overflow of sewage into the watershed during stormwater surges. More than 800,000 persons living in the impacted irrigation districts are expected to benefit from improved sanitary conditions and the farming activities will benefit from an increased supply of clean water. The filtration of the water will enable implementation of more efficient drip irrigation systems, and present day restrictions on farmers raising vegetables for human consumption in parts of the irrigation districts will be lifted.

This project was started in 2009 under the government of Felipe Calderon and construction is expected to complete by the end of 2015. The project was let under a 22-year operating concession contract with a design, build, operate and transfer structure. The winning consortium was composed of Promotora del Desarrollo de América Latina, S.A. de C.V.; Controladora de Operaciones de Infraestructura, S.A de C.V.; Atlatec, S.A. de C.V.; Acciona Agua, S.A.; Desarrollo y Construcciones Urbanas, S.A. de C.V. and Green Gas Pioneer Crossing, L.L.C. The sources of funds for the over USD $1.1 billion in project investments include USD $358 million from FONADIN, USD $144 million in private equity investment, USD $224 million in debt and more than USD $4 million from the federal budget. The lead agency for this project is CONAGUA.

**Project Contacts**

<table>
<thead>
<tr>
<th>Project Sponsor(s)</th>
<th>U.S. Trade and Development Agency</th>
<th>U.S. Commercial Service Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. M. René Chico Escobar</td>
<td>Mr. Keith Eischeid</td>
<td>Ms. Karen Allen</td>
</tr>
<tr>
<td>Director of Construction</td>
<td>Country Manager for Mexico and Central America</td>
<td>Commercial Officer</td>
</tr>
<tr>
<td>CONAGUA</td>
<td>Tel. +1-703-875-4357</td>
<td>+52 (55) 5080-2195</td>
</tr>
<tr>
<td><a href="mailto:rene.chico@conagua.gob.mx">rene.chico@conagua.gob.mx</a></td>
<td><a href="mailto:KEischeid@ustda.gov">KEischeid@ustda.gov</a></td>
<td><a href="mailto:Karen.Allen@trade.gov">Karen.Allen@trade.gov</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Francisco Ceron</td>
<td></td>
<td>Mr. Francisco Ceron</td>
</tr>
<tr>
<td>Commercial Specialist: Energy &amp; Water</td>
<td></td>
<td>Commercial Specialist: Energy &amp; Water</td>
</tr>
<tr>
<td></td>
<td></td>
<td>+52 (55) 5080-2000, ext. 5211</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:Francisco.Ceron@trade.gov">Francisco.Ceron@trade.gov</a></td>
</tr>
</tbody>
</table>
La Paz Desalinization and Wastewater Treatment Plants

<table>
<thead>
<tr>
<th>Project Type:</th>
<th>Drinking Water and Wastewater Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>State(s):</td>
<td>Baja California Sur</td>
</tr>
<tr>
<td>Projected Investment:</td>
<td>USD $72 million</td>
</tr>
<tr>
<td>Timeline:</td>
<td>2014 - 2018</td>
</tr>
<tr>
<td>Project Sponsor(s):</td>
<td>CONAGUA, Baja California State, OOMSAPAS (Municipality of La Paz)</td>
</tr>
</tbody>
</table>

The City of La Paz is the capital of the Mexican State of Baja California Sur and is an important regional center of tourism and commerce. Located approximately 100 miles north of San Jose del Cabo, this rapidly growing urban area has a municipal population exceeding 250,000. The desert climate sees just over six inches of rain each year, and that is concentrated in two months of the summer. Growth has exceeded the capabilities of the local aquifers – La Paz and El Carrizal.

To meet this demand, a new reverse osmosis desalination plant is to be constructed. This plant will be located approximately 5 miles northeast of the city. A pipeline with two pumping stations will transfer the water to the city where a new tank will serve to store the received water for distribution. This plant will be capable of producing 200 liters per second of fresh water.

The plant has been planned for expansion in two additional stages that will bring this capacity to 600 liters per second. Construction is expected to begin in 2014 and completed by 2017. The procurement structure will be a design, build, operate and transfer (DBOT) scheme incorporating a 20 year concession. USD $16.8 million of the cost will be funded through FONADIN with the balance of USD $25.2 million expected to come from private
investment. The lead entity for management of this project is OOMSAPAS, the La Paz Municipality’s operator of the drinking water, sewer and sanitation services.

A sister project to the desalinization plant is the construction of a new wastewater treatment plant that will use activated sludge technology. This plant is intended to replace an existing treatment plant in the city that has reached the end of its useful life and no longer can treat wastewater to meet federal standards. The new plant will be designed for some of its output to serve local irrigation activities, meeting federal standard NOM-001-SEMARNAT-1996. The first stage of this project will be capable of treating 700 liters per second through two treatment processes, with a subsequent expansion bringing capacity to 1,050 liters per second. 70 percent of the cost of this project will come from the federal budget and 30 percent from the state and city.

![Figure 65: La Paz Wastewater Treatment Plant Main Components](image)

**Project Contacts**

<table>
<thead>
<tr>
<th>Project Sponsor(s)</th>
<th>U.S. Trade and Development Agency</th>
<th>U.S. Commercial Service Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gerardo Chiwu, Project Manager OOMSAPAS <a href="mailto:gerardochiwu@yahoo.com.mx">gerardochiwu@yahoo.com.mx</a>&lt;br&gt;Ing. Lorenzo Núñez Cárcamo Operating Director OOMSAPAS <a href="mailto:lorenzonunez@hotmail.com">lorenzonunez@hotmail.com</a></td>
<td>Mr. Keith Eischeid&lt;br&gt;Country Manager for Mexico and Central America&lt;br&gt;Tel. +1-703-875-4357&lt;br&gt;<a href="mailto:KEischeid@ustda.gov">KEischeid@ustda.gov</a></td>
<td>Ms. Karen Allen&lt;br&gt;Commercial Officer&lt;br&gt;+52 (55) 5080-2195&lt;br&gt;<a href="mailto:Karen.Allen@trade.gov">Karen.Allen@trade.gov</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mr. Francisco Ceron&lt;br&gt;Commercial Spec. Energy &amp; Water&lt;br&gt;+52 (55) 5080-2000, ext. 5211&lt;br&gt;<a href="mailto:Francisco.Ceron@trade.gov">Francisco.Ceron@trade.gov</a></td>
</tr>
</tbody>
</table>
Other Projects of Interest

The projects above account for 20 percent of total PNI investment projections for the water sector. Within the PNI, USD $19.4 billion was identified as an expected investment amount by 2018 for projects yet to be determined, and an additional USD $1.76 billion is identified for a program to be implemented in the State of Tabasco for flood control and water efficiency projects.

- **AICM Bordo Poniente Biogas Generation Station and Water Treatment Plant:** This investment is a component of the megaproject to expand the Mexico City International Airport. The airport water management plan is fundamentally integrated into the design to mitigate the hydrologic impact of the new facility on the region, and to address selected persistent water management and drainage problems in the airport area. This plan includes the capacity to treat 492 gallons per second of water through 24 discrete treatment plants, 90 miles of new works to control and canalize wastewater, water storage capacity of 38 million cubic meters, and 24 miles of large storm drain tunnels. Total investment of USD $1.6 billion is expected to be directed to this component of the project. The biogas power generation station will extract methane from the NEZA II and III landfills just south of the project site and is planned, in combination with onsite solar energy generation, to provide as much as 60 percent of the new airport’s energy needs.

- **Construction of the New Presa Santa Maria:** This project, in Sinaloa, is Presidential Commitment 036. It involves construction of a new dam and reservoir, and associated infrastructure such as open canals and pipe distribution networks, to create a new irrigation district and to supply water to the municipalites of El Rosario and Escuinapa. Total investment is projected as USD $562.8 million.

- **Canal Centenario:** This project in the State of Nayarit will modernize the transmission and distribution canals for the rural irrigation districts. Over 5,000 electromechanical components will be replaced and the canals will be improved, including an addition of 29 miles of new primary canal. This project is still in the permitting stage. Total investment of USD $524 million is projected.

- **Guadalajara Drinking Water Project:** In the State of Jalisco USD $517 million is the projected investment amount under Presidential Commitment 231 to provide unspecified improvements to the drinking water supply infrastructure for the city of Guadalajara.

- **Mexico State Drinking Water Project:** In the State of Mexico USD $420 million is the projected investment amount under Presidential Commitment 199 to provide unspecified improvements to the drinking water supply infrastructure for Mexico City.

- **Canal 4 de Abril:** Located in the State of Baja California, this project involved the construction of a new canal to supply water for agricultural irrigation purposes. This project was completed in April of 2014 at a total projected investment of USD $246 million.

- **Tamaulipas Irrigation Projects:** Approximately USD $175 million is to be invested in improvements to the irrigation districts within the state, under Presidential Commitment 185.

- **Emisor Poniente II, Stage 1:** This six-mile drainage tunnel will feed into the existing Western Emission Tunnel in Mexico City, providing additional drainage capacity for the northwest sector of the city of 112 cubic meters per second. This is a strategic project of CONAGUA and is financed through the 1928 Trust Fund. A consortium including Proacon Mexico, Construcciones Aldesem, and Regiomontana de Construcciones y Servicios began construction in 2013, with completion scheduled for 2017. The total projected investment is USD $169.8 million. Interested parties may contact Dr. Rafael Carmona of CONAGUA’s Subdirectorate of
Drinking Water, Drainage and Sanitation, at rafael.carmona@conagua.gob.mx This project is Presidential Commitment 204.

- **Túnel Canal General**: This project is Presidential Commitment 134 and will construct a six mile, 16 foot diameter tunnel to bury the open top stretch of the drainage Túnel Río de la Compañía in the State of Mexico to the point where it feeds into the Túnel Canal General. This is intended to resolve capacity limitations of the canal portion which suffers from degradation of the walls and silting. This **USD $105 million** project is funded by the 1928 Trust Fund. It was begun in 2013 by a consortium of ICA and Construcciones y Trituraciones SA de CV, and is expected to be operational in 2017. This is a CONAGUA strategic project.

- **Acapulco Drinking Water Infrastructure Improvements**: This project is Presidential Commitment 068 and will involve an expected **USD $103 million** investment to improve the drinking water infrastructure of the city of Acapulco in Guerrero.

- **San Francisco de Campeche Sewer and Water Project**: This project is Presidential Commitment 065 and will involve **USD $100 million** of investments to improve the drinking water, sewer, and drainage system of the city of San Francisco de Campeche in the State of Campeche.

- **Completion of the Aqueduct to Ciudad Victoria**: This project will entail investment of **USD $93 million** to complete the construction of a system to bring water from the reservoir Presa Vicente Guerrero 33 miles to the city of Ciudad Victoria in Tamaulipas. The project includes construction of a primary peripheral distribution line around the city, a new aqueduct line parallel to the old one, three pumping stations along the alignment, and a drinking water treatment plant adjacent to the reservoir. The federal budget will provide 55 percent of the investment and the state and local governments will provide the balance. This project is Presidential Commitment 184 and also a strategic project for CONAGUA. It is expected to begin in 2014 and conclude in 2014. Interested parties may contact Director Jaime Canos at the Tamaulipas state government’s Water Commission for more information at jaime.cano@tamaulipas.gob.mx.

- **Presla La Laja Reservoir and Water Supply System**: This project will provide reliable drinking water service to the cities of Ixtapa and Zihuatanejo in the State of Guerrero. This region has experienced significant water supply problems, particularly during peak tourism season. Construction of a 154 foot tall dam will create a new reservoir, the waters of which will be channeled through 30 miles of pipe to reach the urban area. The project includes construction of a water treatment plant outside the cities with a capacity of ½ a cubic meter per second. The total investment of **USD $87 million** will be split between the federal budget (the dam, approximately 60 percent of costs), and FONADIN and private funds (for the water infrastructure). This project is completing final evaluation, with an objective to go to bid in 2014 and completion by 2016. This is one of CONAGUA’s designated strategic projects. Interested parties may contact Ing. Arturo Palma, Director of the Guerrero State Water and Sewer Commission at palma.arturo@hotmail.com for more information about this Project.

October 2014
• **Water Treatment Plant in Tuxtla Gutierrez:** This project in Chiapas is expected to involve a total investment of USD $41 million.

• **New Water Treatment Plant in Ixtapan de la Sal:** Located in southern region of the State of Mexico, the current drinking water plant for this municipality of 20,000 persons has reached the end of its useful life. The treated water no longer meets quality standards, and capacity of 40 liters per second is insufficient to meet demand, causing blackout periods in water supply. The new plant will be able to treat 120 liters per second of water. The process will involve stages of coagulation-floculation, clarification, sedimentation, filtration, and chlorine disinfection. This plant is expected to be constructed in 2015.
Water and Environment Project Study Activity

Hazmat Site Evaluation and Remediation Studies

As of October 2014, SEMARNAT was conducting pre-investment studies on two high-risk hazardous materials sites, located in or near the cities of San Luis Potosi and Guadalajara. These studies will evaluate the type and extent of contamination in the soil, evaluate the risk to surrounding populations, and develop a remediation plan.

The site in Jalisco is located at 20.395186 N and 103.221918 W.

The site in San Luis Potosí is located at 22.9079 N and 100.58385 W.

Figure 68: Hazmat Sites under Remediation Study in Guadalajara and San Luis Potosi

These sites are entered in the national contaminated sites register (SISCO by its Spanish abbreviation). Both sites were used to conduct industrial operations involving hydrocarbons and heavy metals. Presence of significant amounts of lead at the sites is of particular concern to the government.

This study activity is budgeted at USD $2.4 million and is expected to be completed by December of 2014. The point of contact at SEMARNAT is Ing. Luis Eduardo de Avila Rueda, General Director of Integrated Management of Waste and Hazardous Materials, tel. +52 (55) 5624-3300, email: luis.deavila@semarnat.gob.mx

Hazmat Disposal Site Reactivation Studies

SEMARNAT plans to carry out studies on three disused, remediated hazardous material disposal sites to determine the feasibility of reactivating them. The sites are located in the municipalities of Guadalcazar in San Luis Potosi (La Pedrera site), Hermosillo in Sonora (CYTRAR site), and Zimapán, Hidalgo. The current infrastructure consists of different combinations of storage cells and tanks, remediation structures, laboratory facilities and infrastructure and access control components. Reactivation will support the federal government’s efforts to address its responsibility for storage, treatment and disposal of hazardous materials and arrest the cost of maintaining the unused facilities. USD $700,000 is budgeted to fund these studies, which are to conclude by the end of 2015. The point of contact at SEMARNAT is Ing. Luis Eduardo de Avila Rueda, General Director of Integrated...
Drinking Water and Wastewater Treatment Facility and Infrastructure Studies

SEMARNAT is undertaking pre-investment studies of new or improved wastewater treatment and drinking water facilities and infrastructure around the country. The following studies are among those taking place throughout 2014 – 2015. (The word “dictamen” used below refers to a process of evaluation of the outcomes of the package of various technical, feasibility, environmental and economic studies required by law to prepare a project, culminating in a formal approval of the project by the responsible government agency. It roughly translates as decision, but is a formal process that is allocated its own budgetary line item.)

- **Project Benefit-Cost Analysis, Environmental Impact Study, and Dictamen – Water Treatment Infrastructure in Tabasco:** This BCA, to be conducted in 2014, will evaluate the proposed project to construct the “El Negro” pumping station and other improvements to the collection infrastructure feeding the wastewater treatment plant in the city of Villahermosa, Tabasco. Currently significant volumes of wastewater are discharged without treatment due to the terrain. Funding is also provided for the Dictamen for the package of pre-investment studies, to be performed in 2015. USD $164,000.

- **Project Benefit-Cost Analysis, Economic Impact Study, and Dictamen – Drinking Water Infrastructure in Campeche:** This study will evaluate proposed measures to develop additional sources of drinking water for the city of San Francisco de Campeche, to improve the quality of the water that is provided (which has high concentrations of mineral sales), and to improve the functioning and efficiency of the water distribution network which is poorly planned and suffers from clogging due to buildup of mineral deposits. Funding is also provided for environmental impact study and the capstone Dictamen for the package of pre-investment studies, to be performed in 2015. USD $153,000.

- **Project Benefit-Cost Analysis and Dictamen – New Chapultapec Water Treatment Plant and Irrigation Works in Mexico City:** The current wastewater treatment plant has reached the end of its useful life and no longer is capable of treating water that can meet current federal standards. This study will evaluate proposals to construct an entirely new modern treatment plant with a capacity of 240 liters per second, as well as pumping plants and irrigation infrastructure for treated water use supporting adjacent agricultural activities. Funding is also provided for the Dictamen for the package of pre-investment studies, to be performed in 2015. USD $111,000.

- **Project Benefit-Cost Analysis, Environmental Impact Study, and Dictamen – San Cristobal de Las Casas Wastewater Treatment Plant:** The city currently has no wastewater treatment facility. Wastewater is channeled directly to a nearby arroyo, which floods during the rainy season and routinely backs up into parts of the city. This study will evaluate the proposal to construct a brand new plant capable of treating 300 liters per second of wastewater. Funding is also provided for the Dictamen for the package of pre-investment studies, to be performed in 2015. USD $158,000. Interested parties may contact Leonardo Martínez, Manager of Studies and Projects for Drinking Water and Sewage of CONAGUA, for more information about this study activity at +52 (55) 5174-0004 or by email to leonardo.martinez@conagua.gob.mx

- **Formal Opinion (Dictamen) – Construction of New Wastewater Treatment and Desalinization Plants in La Paz, Benefit-Cost Analysis and Environmental Impact Study for the Desalinization plant:** A Dictamen involves a general legal compliance review of all the findings of the different required pre-investment
studies prepared for a government project, including technical, economic, and environmental feasibility and benefit-cost analysis. A favorable finding is necessary for the federal government to allocate resources to the project. The new desalination plant is designed to provide a water supply to meet projected growth in demand as traditional sources from local aquifers have reached capacity. The environmental impact study has yet to be finished for this plant and would be conducted under this funding. The present sewage treatment plant in La Paz has reached the end of its useful life and its outputs no longer meet federal standards for treated wastewater, and construction of a completely new plant is proposed. USD $160,000.

- **Dictamen – Construction of the Chichicastle – Frontera Aqueduct and Treatment Plant:** This Dictamen will render an opinion on the completed package of pre-investment studies for the project to build a new aqueduct between Chichicastle and Frontera in the municipality of Centla, in the State of Tabasco, including a new water treatment plant at Frontera. This project is designed to provide an alternative to local drinking water sources that contain high amounts of iron and manganese. This study activity is projected to occur in the first quarter of 2015. USD $46,000.

- **Environmental Impact Study and Dictamen – Rehabilitation of the Pumping Infrastructure for the Drinking Water System in Villahermosa:** This dictamen will render an opinion on the completed package of pre-investment studies for the project to replace/rehabilitate the pumping equipment which frequently fails, cutting water supply to the served communities in Villahermosa, Tabasco. The piping support trestles will also be replaced in this proposed project. The environmental impact study precedes the dictamen, and both should be completed by the end of 2014. USD $107,000.

- **Environmental Impact Study and Dictamen – Construction of the Túnel Rio de la Compañía II:** This dictamen will render an opinion on the completed package of pre-investment studies for the project to build an extension to the existing wastewater tunnel of the same name that runs partially between the Canal General and the Rio San Francisco, in the State of Mexico. This study activity is projected to occur in the first quarter of 2015. USD $113,000. Interested parties may contact Ing. Rafael Carmona Paredes of CONAGUA at +52 (55) 5559-2691 or rafael.carmona@conagua.gob.mx for more information on this initiative.

- **Pre-Investment Studies for a New Drinking Water Desalinization Plant in Cozumel:** The island of Cozumel is an important tourist destination located just off the eastern coast of the State of Quintana Roo. The drinking water supply currently comes from a system of 274 wells, 92 of which are near exhaustion or contaminated rendering them unfit for use. Well water resources are insufficient to meet current and projected drinking water needs. A new desalination plant is envisioned that would be capable of desalinating and treating 200 liters per second of seawater. CONAGUA has budgeted USD $1 million to perform pre-investment studies in 2015 for this project, including the benefit-cost analysis, technical and legal feasibility, ocean impact analysis, basic engineering and environmental impact study.
Pre-Investment Studies for Renewal of the Cutzamala Drinking Water System for the Mexico City Region:
The Cutzamala System is a critical source of drinking water for the Mexico City urbanized area, and has been in development for more than 80 years. This network includes 7 major dammed reservoirs, 6 major pumping plants, 44 miles of canals, 27 miles of tunnels, 135 miles of aqueducts. The system’s water treatment plant Los Berros is the largest in Latin America. Altogether this is one of the largest integrated drinking water infrastructure systems in the world. Three of four envisioned phases have been constructed. More than 27 discrete studies and analyses are funded under this effort, and include evaluations for efficiency improvements in the existing system, CO2 mitigation, and the rehabilitation and replacement of aqueducts, tunnels, pumping stations, and drinking water treatment components. These studies will be carried out between 2014 and 2016 at a total cost of USD $19 million. Interested parties may contact Ing. Jose Jardines, Director of Drinking Water, Sewage, and Sanitation at CONAGUA by telephone to +52 (55) 5804-4300 Ext. 3767 or at mmut@conagua.gob.mx for more information on this study activity. These studies support Presidential Commitment 199 and ultimately more than USD $420 million in capital investment is expected to occur as part of this initiative.