



Mexico Infrastructure Conference: Portfolio of Infrastructure Projects for 2010

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Vivir Mejor



The National Water Commission of Mexico

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Created in 1989, the CONAGUA is an administrative, normative, technical, consultative and decentralized agency of the Mexican federal government, whose mission is to “manage and preserve Mexico’s water and its inherent public goods to achieve a sustainable use of these resources, with the co-responsibility of the three tiers of government and society-at-large”.

Framework for PSP in Mexico

- Private Sector Participation (PSP) in the water sector is an integral part of the main Mexican government programs (National Development Plan, Environmental and Natural Resources Sector Program, National Resources Water Program, National Infrastructure Program).
- Through PSP, the Mexican Government aims to increase the efficiency of its investments, its water systems and its water sector funding.



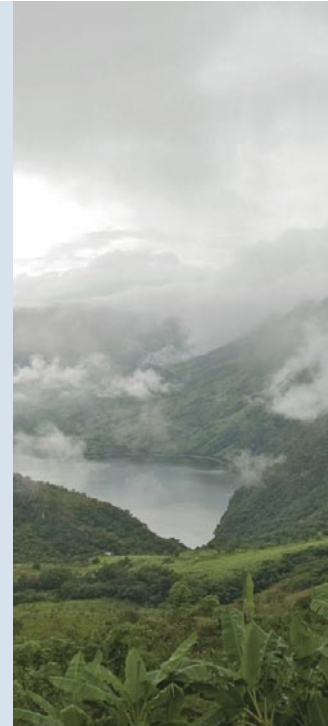
Framework for PSP in Mexico

- PSP in the Mexican water sector mainly focuses on the funding, construction and operation of the main infrastructure projects, mainly through BOT scheme for WWTPs.
- Some new PSP opportunities have been created, such as the Integral Management Improvement (IMI) scheme, where a private company will be in charge of the operation and maintenance of specific works in order to improve efficiency and render the water and sanitation services more sustainable.



PSP potential in the water sector in Mexico

- PSP can focus on the 836 municipalities in Mexico that have more than 20,000 inhabitants, as well as promote the O&M in municipal water systems.
- It is important to promote PSP where:
 - Cost recovery of the water service can be achieved through tariffs.
 - The investment required is not significant.
 - The interest of the states and municipalities to include PSP in the water systems is strong.
 - Some municipalities can be grouped together to obtain some savings.



Infrastructure projects for 2010

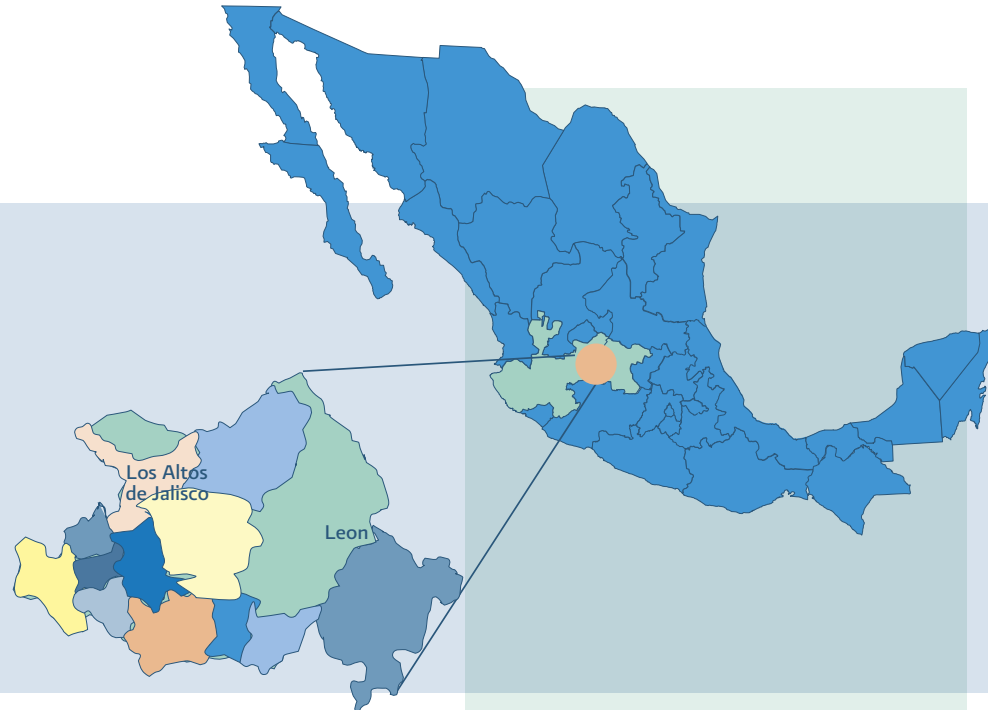
Zapotillo, Guanajuato and Jalisco
Falcon Matamoros
Ensenada, Baja California
Hermosillo, Sonora
Other projects.



1. “El Zapotillo” Aqueduct Project for Drinking Water Supply in Leon, Guanajuato and Los Altos de Jalisco



Overview



This project consists of: Construction of a 140 km aqueduct from the “El Zapotillo” dam, pumping plants to overcome a 500 m gradient, a disinfection plant, storage tank and macro circuit for drinking water distribution in Leon, Guanajuato

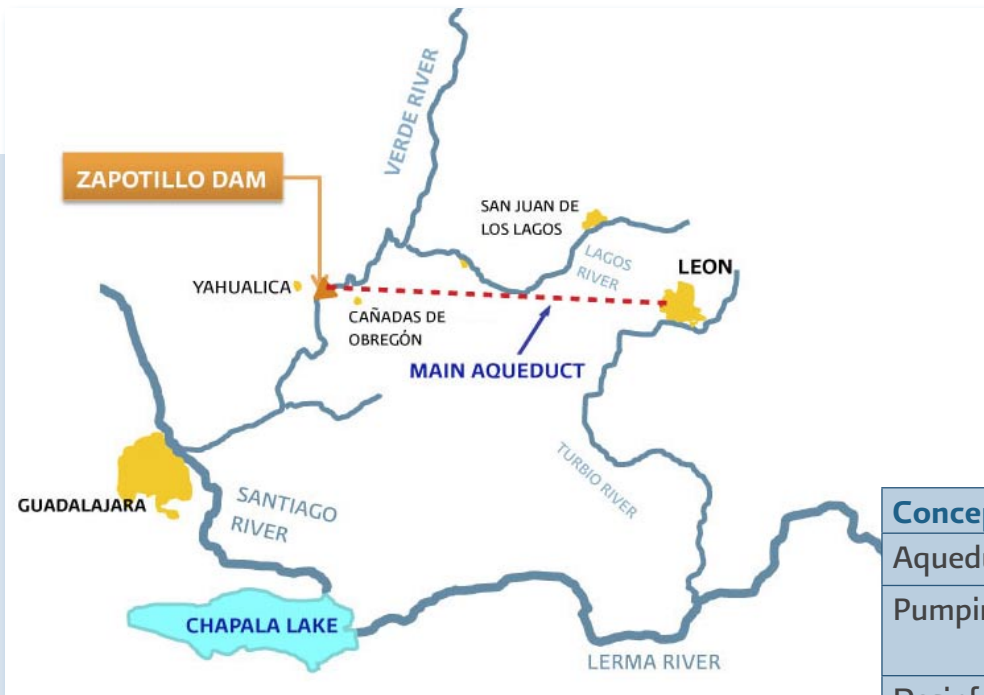
Expected benefits

Meeting the current and future drinking water demands of 1.1 million inhabitants in León, Guanajuato, and 400,000 more in Los Altos de Jalisco.

Furthermore, to achieve sustainability for the regional aquifers by reducing water extraction for human consumption.



Physical aspects



Concept	Characteristics
Aqueduct	140 km / Ø 2.5m
Pumping plants	2 plants to over come a 500 m gradient
Desinfection plant	Capacity of 86.7MGD
Storage tank	100,000 m ³
Macro-circuit for water distribution	42.4 km

Funding

- Participation of the National Infrastructure Fund: 49%
- Private participation: 51%, through a recoverable investment
- Project amount: 394.1 million dollars

Project evaluation data	
Concept	Duration
Evaluation Period	25 years
Construction Period	2.5 years
Operation Period	22.5 years



Timeline

Activities	2009	2010			
Zapotillo Aqueduct	Dec.	Jan.	Feb.	Mar.	Apr.
Review of bid documents					
Bid issue					
Proposals Investigation					
Receiving Proposals					
Decision					

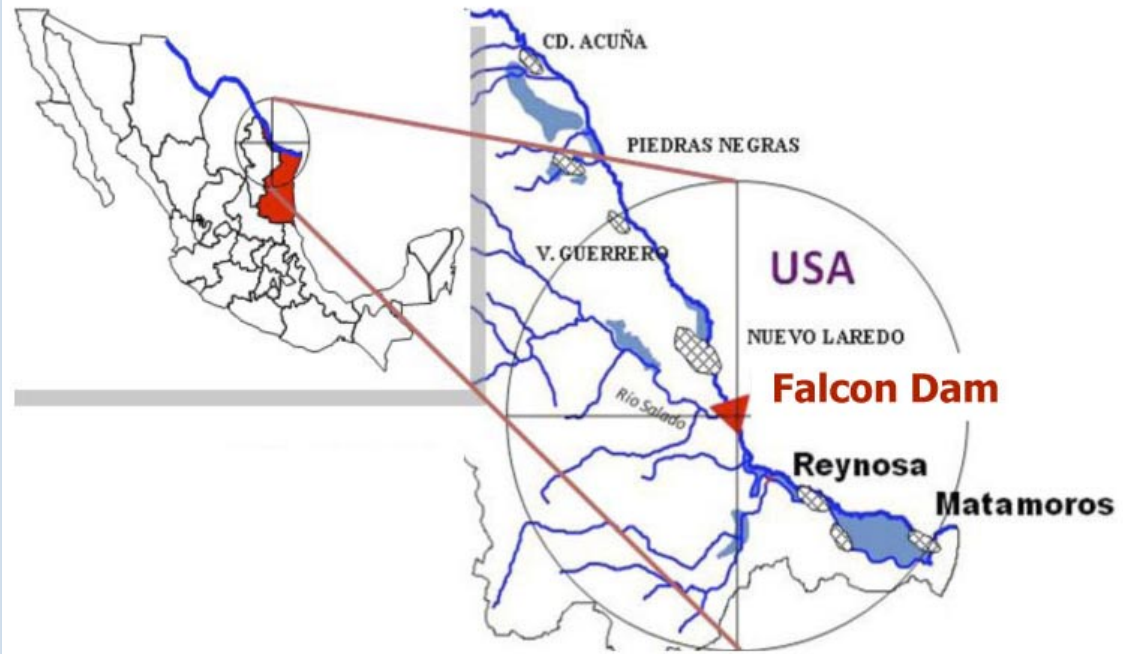


2. “Falcón Matamoros” aqueduct project



Overview

- This project consists of:
- Construction of a 262 km aqueduct with a total capacity of 182.6 MGD
- The diameter ranges from 1.8 to 2.8 meters.
- Two pumping plants.
- Two storage tanks.
- A few miles south of the US border



Expected benefits

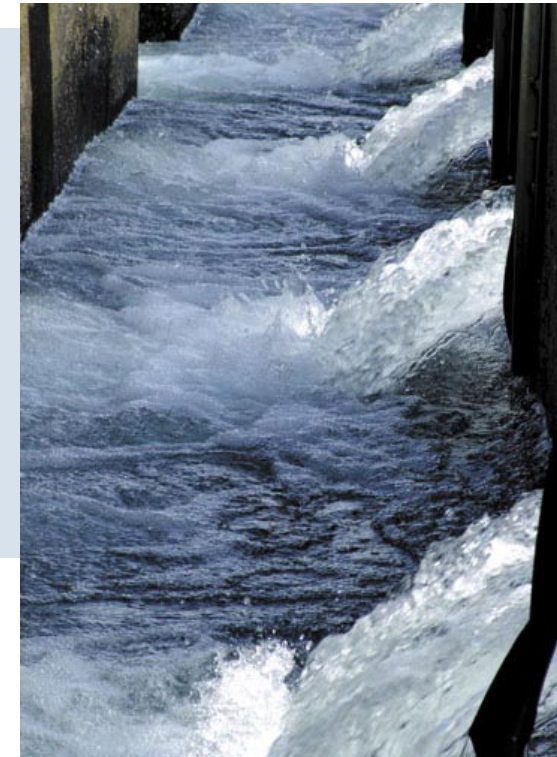
- The purpose of the project is ensuring drinking water supply for localities situated in the lowest part of the Rio Grande basin.
- To eliminate losses caused by water conveyance through an open channel.



Funding

- National Infrastructure Fund: 31%
- Private participation: 69%, through a recoverable investment.
- Project amount: 493.1 million dollars

Project evaluation data	
Concept	Duration
CPS period	30 years
Construction Period	2 years
Operation Period	28 years



Timeline

Activities	2009	2010			
Falcón-Matamoros Aqueduct	Dec.	Jan.	Feb.	Mar.	Apr.
Review of bid documents	■				
Bid issue		■			
Proposals Investigation			■	■	■
Receiving proposals					■
Decision					■

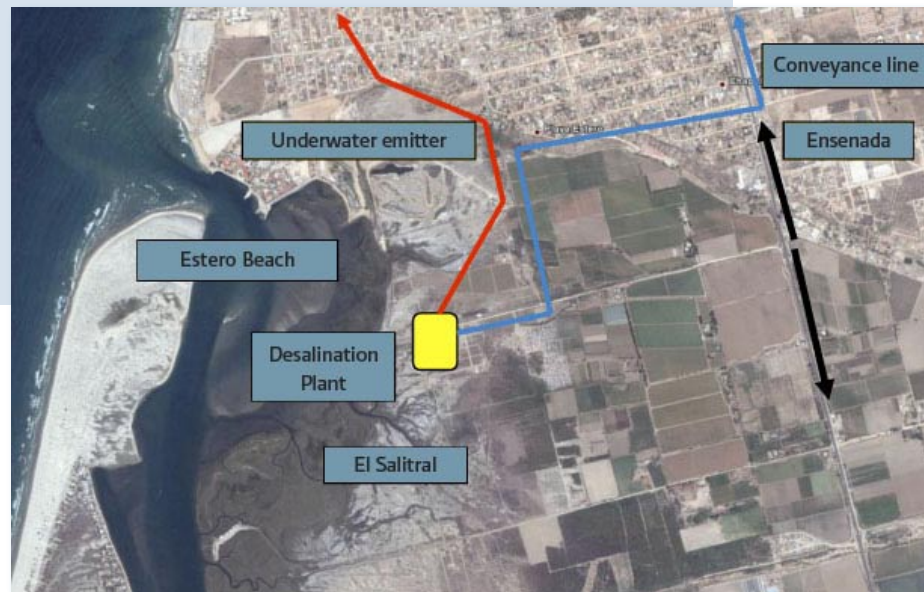
3. Desalination plant in Ensenada, Baja California



Overview

This project consists of:

- Construction of a seawater desalination plant, to supply 5.7 MGD.
- Intake structure.
- Conveyance line.
- A water delivery structure.
- Management and removal of wastewater.



Expected benefits

- Meeting the current and future drinking water demands of 96,000 inhabitants in Ensenada, Baja California.
- To accomplish sustainability to regional aquifers by reducing water extraction from pumping wells.



Physical aspects

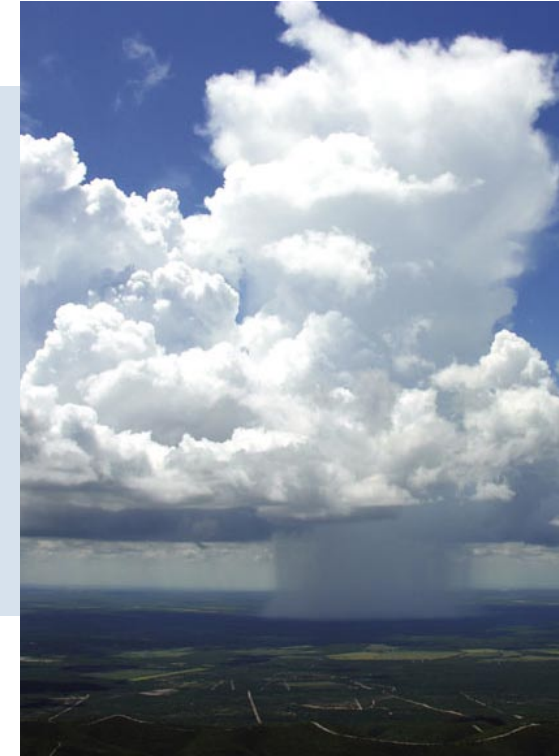


Concept	Characteristics
Desalination plant	5.7 MGD
Conveyance line from Plant to El Gallo	14,260 m
Conveyance line from El Gallo to Revolución	3,250 m
Conveyance line for rejected water	3,200 m
Underwater emitter	900 m

Funding

- Participation of National Infrastructure Fund: 40%
- Private participation: 60% through a recoverable investment.
- Project amount: 27 million dollars

Project evaluation data	
Concept	Duration
CPS period	25 years
Construction Period	2.5 years
Operation Period	22.5 years



Timeline

Activities	2009	2010			
Ensenada Desalination Plant	Dec.	Jan.	Feb.	Mar.	Apr.
Review of bid documents	■				
Bid issue		■			
Proposals Investigation		■	■		
Receiving proposals				■	
Decision					■

4. Wastewater treatment plant in Hermosillo, Sonora



Overview

This project consists of:

- Construction of a wastewater treatment plant, with a capacity of 57.1 MGD.
- A diversion reservoir for irrigation and subsoil recharge.



Expected benefits

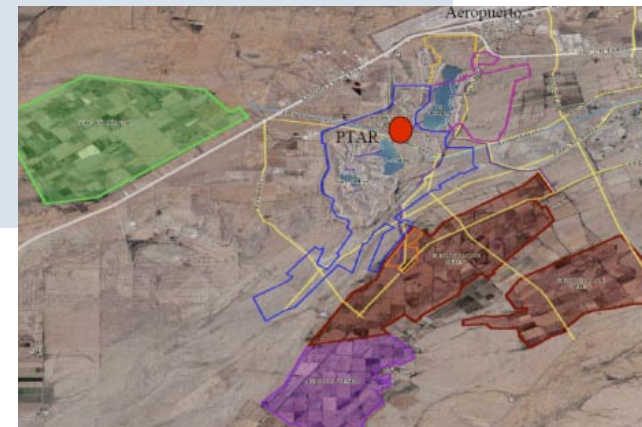
These waterworks, will solve the pollution problems in the Sonora river; in addition, it will help the water supply system by swapping first use water, which is used in irrigation districts, for treated wastewater.

Also, sustainability will be improved in the region, since regional aquifers are going to be recharged with treated water.



Physical aspects

- Wastewater Treatment Plant: 57.1 MGD, secondary treatment technology
- Regulation Reservoir: Receives and controls the required flow of water for irrigation and recharge
- Recharge Structure: Accelerates the infiltration process of 28.9 MGD.



Funding

- Participation of National Infrastructure Fund: 40%
 - Private participation: 60%, through a recoverable investment.
- Project amount: 38 Million Dollars

Project evaluation data	
Concept	Duration
CPS period	25 years
Construction Period	2 years
Operation Period	23 years

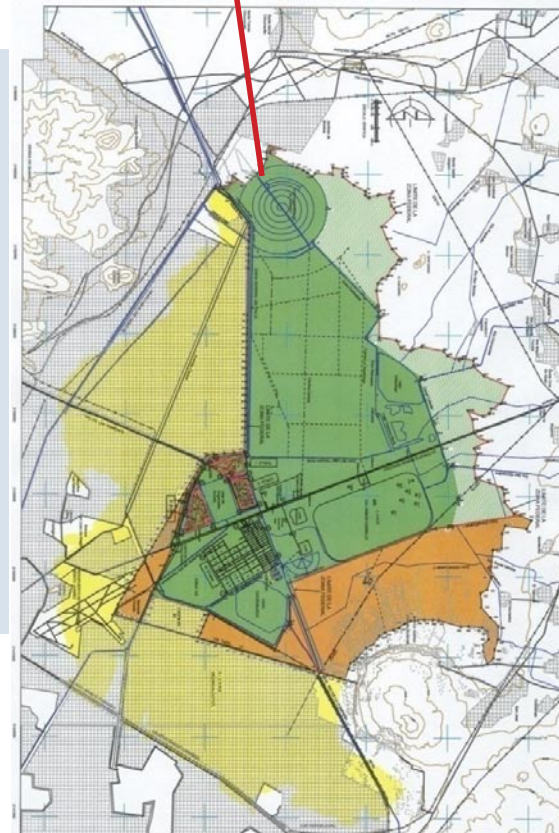


Timeline

Activities	2009	2010			
Hermosillo wastewater treatment plant	Dec.	Jan.	Feb.	Mar.	Apr.
Review of bid documents	■				
Bid issue		■			
Proposals Investigation		■	■	■	
Receiving proposals				■	■
Decision					■

Other projects

El Caracol



Water treatment and reuse system, El Caracol, Mexico City

This project consists of:

- Intake and pumping plant works
- Raw sewage transported from the pumping plant to the wastewater treatment plant
- Wastewater treatment plant (91.3 MGD)
- Reuse in irrigation (68.4 MGD)
- Aquifer recharge (22.9 MGD)
- Amount: 161 million dollars



Other projects

- **Desalination Plant in La Paz, Baja California Sur (4.5 MGD)**
- **Desalination Plant in Guaymas, Sonora (57.1 MGD)**
- **Desalination Plant in Tijuana and Rosarito, Baja California (22.8 MGD)**
- **Wastewater treatment plant in Tijuana, Baja California (57.1 MGD)**

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