Water Circularity
SUEZ case studies in Mexico

Stockholm Water Week

August 30th 2017

Water
Overview

- **127M** Inhabitants
- **105** aquifers overexploited
- **67%** Territory arid or semiarid
- **70%** Collection Efficiency (PIGOO)
- **3,692** m³/inhab/year
- **2.3%** GDP Growth 2016
- **44%** Global efficiency (CONAGUA)
- **96%** Has access to improved sources of drinking water
- **57%** wastewater is treated

Sources: WorldBank.org, CONAGUA, PIGOO
SUEZ in Mexico

40 years of presence in water management

- 300 drinking water and sanitation plants built
- 10 M inhabitants benefit from water services
- >500,000 m$^3$/d of wastewater treated
- Nearly 700,000 communicating water meters
- 2,200 employees (JV and PPP included)
- €57 M

Water Circularity. SUEZ case studies in Mexico
Solutions to water problems in Mexico with Circular Economy

- **Waste Water Reuse**
  El Tenorio, San Luis Potosí

- **Industrial Water Treatment:**
  Grupo México, San Luis Potosí

- **Physical efficiency**
  BPO ASIM in CDMX and AGSAL in Saltillo.

- **Reuse and Recharge**
  PTAR Chapultepec, CDMX
Reuse- San Luis Potosí
A major BOT project in the middle of the desert.

Challenges
- Fast-growing region (1.3 M people)
- Semi-arid region with limited resources
- Securing water supply for the population while supporting the development of agriculture and industry

Solutions
Building and operating (20 years) the Tenorio plant that **recycles 100% water** for:
- 43% Industrial use - High quality water for the cooling system of the local electricity power station
- 57% Agricultural use - water to irrigate 400 ha

Key figures
- A collection rate of wastewater increase from 32 to 85% in 6 years
- 80,000 m³ of treated wastewater recycled per day
Challenges
The customer is the most important mining player in Mexico and decided to use waste water which comes from a gray water canal as an alternative of the use of well water.

Solutions
An O&M contract for WWTP from Zinc Refinery located in San Luis Potosí to treat 180 m³/h.
Duration: 1 year

Reduction of 100% in the consumption of water from wells through the collection and use of water from alternate sources for the needs of the refinery.

Key figures
- 80% of the treated water by SUEZ in WWTP is used in the process production of the refinery
- 20% of the treated water by SUEZ in WWTP is used the services of the refinery.
Physical Efficiency – Saltillo
Delivering water with great efficiency

Goals
In 2001, Aguas de Saltillo received a concession to manage the water services for a total of 562,587 habitants with a 45% physical efficiency and 65% of commercial efficiency. It was a challenge for the first mixed company in México, currently with a population of 845,000 habitants.

Benefits
247,627 customers are benefited with the service from the nearly 418 employees that reduce leaks to achieve a 73.5% of physical efficiency in a region that is mostly desert, improving the water production. Currently, Agsal counts with an action plan that guarantees a 3% annual improvement in the physical efficiency. The drinking water coverage achieves a 99%.

Key figures
- Physical Efficiency: 73.5% in 2017
- Water volume produced: Increase of 0.3% vs 2016
- Invoiced volume: 5% more than 2016
The case of Mexico City

Mexico City’s population: 8 833 415
(CONAPO 2016)

Is located in a place naturally benefited by water but with serious **problems** of distribution and efficiency

The **water consumption** is one of the **highest in world**, with 312 liter per day (UNAM studies)
Reducing Water Losses, BPO- ASIM
8 of the 16 delegations of Mexico City are served by our companies

Goals
Since 1993, SUEZ has been supporting the public operator of Mexico City in the improvement of water distribution services in 8 of the city’s 16 districts.

Benefits
4.6 Inhabitants are received service from the nearly 900 employees that reducing water losses in the networks (network rehabilitation, search for leaks), and improving customer service (customer center, meters installation and reading, delivering water invoices)

As an additional activity, we built the Santa Catarina Aqueduct, making it possible to conduct 350lps additional to the area with the greatest deficit in the city.

Key figures
- Nearly 700,000 water meters were installed
- Rehabilitation of over 1,662 km of secondary networks
- >20,000 leaks identified, >30,000 leaks repaired
- 11 customer agencies
Re Use and Recharge: Chapultepec Project
A project to build the sustainable Mexico City of the future

Challenges
• Today, Mexico City, as a part of Valle de Mexico Basin, faces a shortage of 1 billion of $m^3$
• Beside the scarcity problem, there’s a sinking phenomenon
• Only 46.9% (weighted average in 2012) of sewage is treated.

Solutions
SUEZ will treat the wastewater 170lps, focused on 3 different water reutilizations:
 Lake filling
 Irrigation of green areas and
 Aquifer recharge: 1st municipal reuse project in Mexico

Estimated Start up by 4th Q 2017 - 1st Q 2018

As a sub product of the water treatment, we will contribute to maintaining & enhancing the recreational attractiveness of the Chapultepec park, which is 2X Central Park, and favor the cultural & economical activities.
Thank you for your attention

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