

What are the opportunities for Water and Wastewater PPPs in Mexico?

BANOBRAS/Fonadin and Water Finance in Mexico

June 2022

Pipeline

Stage	State	Project	Estimated Investment (MDD)
RFP	Baja California	Tijuana WWTP	37.2
Planning	Tlaxcala	Tlaxcala Water Plan	98.3
Planning	Michoacán	Morelia OFS	62.2
Planning	Guanajuato	Irapuato WWTP	24.6
Planning	Michoacán	Uruapan OFS	26.1
Planning	Guanajuato	Salamanca WWTP	26.4
Planning	Guanajuato	Celaya OFS	38.2
Planning	Sonora	Navojoa, Huatabampo, Etchojoa, Quiriego, Álamos, Rosario y Benito Juárez WWTPs	25.6
Planning	Estado de México	Naucalpan WWTPs	53.9
Planning	Chihuahua	Chihuahua OFS	68.75
Planning	Quintana Roo	Cozumel Desal	48.8
Planning	Sinaloa	Ahome OFS	33.6
Planning	Coahuila	Saltillo Drinking Water Program	245.4
Planning	Nayarit	Bahía de Banderas Water Program	62.9
Planning	Baja California	Ensenada, Tijuana, Tecate y Mexicali OFS	276.1
Planning	Baja California Sur	Mulegé, Loreto y Comundú Energy and Commercial Performance Contracts	1.5
Planning	Jalisco	Studies (i) Expansion and modernization of the Río Cuale Water Treatment Plant for a capacity of 260 l/s and storage capacity to 800 m ³ , (ii) Expansion and modernization of the PTAR Norte II from 1,125 to 1,500 l/s.	55.5
Planning	Querétaro	Querétaro Metro Area OFS and WWTPs	76.9

Over **1.2 billion**
in TOTAL EST
INVESTMENT

FONADIN & PROMAGUA

Feasibility Studies and Advisory Services

- Initial Assessment and Diagnostic
- Basic Engineering Studies
- Socioeconomic Evaluation
- PPP Feasibility Studies
- Strategic Advisory Services (Procurement)

Project Gap Financing Support

- Aqueducts
- Desalination Plant
- Wastewater Treatment Plants
- Financial and Operational Sustainability and Water Management

Grants for Feasibility Studies and Advisory Services

US\$19.8 million
47 Projects
20% Finalized

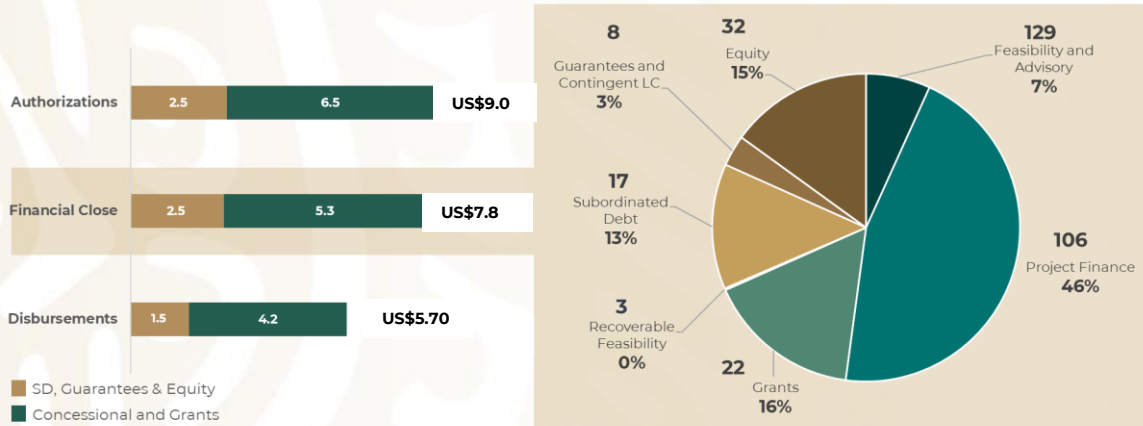
No.	Financed Projects by FONADIN - CONAGUA	Investment (MDD)	FONADIN Grant (MDD)
1	10 Wastewater Treatment Plants (in operation)	731.22	331.83
2	1 Desalination Plant (in operation)	39.80	8.93
3	1 Desalination Plant (construction)	38.58	18.89
4	5 authorized projects	137.93	67.59
	TOTAL	947.53	427.24

Mexico has a wastewater collection of **215 m³/s**, and the wastewater treatment plants financed by FONADIN contribute with **45 m³/s**, which is equivalent to **32%** from the sanitation coverage.

FONADIN

Fonadin is a Trust Fund set up by the Ministry of Finance to promote investment, mainly in PPPs, in BANOBRAS' areas of attention.

From its creation until end of August 2019 FONADIN 's Pipeline is integrated by:



Note: Data presented is in nominal euros at 21\$/€, corresponding to current pipeline plus unsigned/authorized projects of cancelled projects.

Nature and Objectives

- The National Infrastructure Fund is the largest concessionaire of Toll Roads in Mexico.
- Created from the merger of two pre-existing funds through a presidential decree published on February 7th 2008.
- With the profits from toll road operations, FONADIN provides concessional and non traditional-financing to promote infrastructure investment in high economic impact sectors:
 - Grants and Contributions for Projects and Feasibility Studies and Advisory Services
 - Subordinated Debt, Guarantees and Equity

N°	Red Concesionada FONADIN operada por CAPUFE e IDEAL	Longitud
1	Tijuana - Ensenada	89,540
2	Tecate - La Rumorosa	55,500
3	Aeropuerto de los Cabos - San Jose	20,200
4	Chumapa - Lecheria	35,099
5	Libramiento Nororiental de Querétaro	37,500
6	México - Querétaro	174,472
7	Querétaro - Irapuato	104,250
8	Lagos de Moreno - Villa de Arriaga	66,048
9	México - Cuernavaca	63,540
10	Puente de Ixtla - Iguala	63,578
11	La Bera - Clausula	34,888
12	Zacapulco - Rancho Viejo	17,124
13	Libramiento de Cuernavaca	44,900
14	Cuernavaca - Acapulco	202,580
15	Rancho Viejo - Taxco	8,340
16	México - Puebla	97,053
17	Puebla - Acapulco	37,900
18	Acatzingo - Cd. Mendoza	95,600
19	Gampeche - Champoton	39,500
20	Cordoba - Veracruz	99,000
21	La Tinaja - Acapulco	188,000
22	Acapulco - Cosoleacaque	40,000
23	Salina Cruz - La Ventosa	79,388
24	Cárdenas - Entronque Aguadulce	54,111
25	Puente el Zacatal	3,888
26	Cd. Mendoza - Cordoba	39,900
27	Gulierrez Zamora - Tihuatlan	37,289
28	Libramiento Poniente de Tampico	14,478
29	Reynosa - Matamoros	44,040
30	Puente Internacional Reynosa Pharr	5,129
31	Pra. Int. Matamoros los Tomates	0,810
32	Monterrey - Nuevo Laredo	123,300
33	Torreon - Saltillo	114,800
34	Carbonera - Puerto México	32,000
35	La Carbonera - Ojo Galliente	34,300
36	Cadereyta - Reynosa	132,015
37	Gómez Palacio - Durango y Chihuahua	150,593
38	Durango - Mazatlan	230,100
39	Estacion Dlin - Nogales	155,348
40	Las Choapas - Ocozacoautla	197,500
41	Guicnopalan - Oaxaca	243,000
42	Libramiento Sur II de Reynosa	43,540
43	Libramiento Amecameca - Napanita	26,810
44	Viaducto Elevado Intersección el Caminero (IDEAL)	5,300
45	Cabo San Lucas - San José del Cabo	38,684

The National Infrastructure Fund operates the second largest network of toll roads in the world.

It consists of 51 highways, 1 national and 2 international bridges, extending over 3,900 km, with over 450,000 vehicle crossings per day.

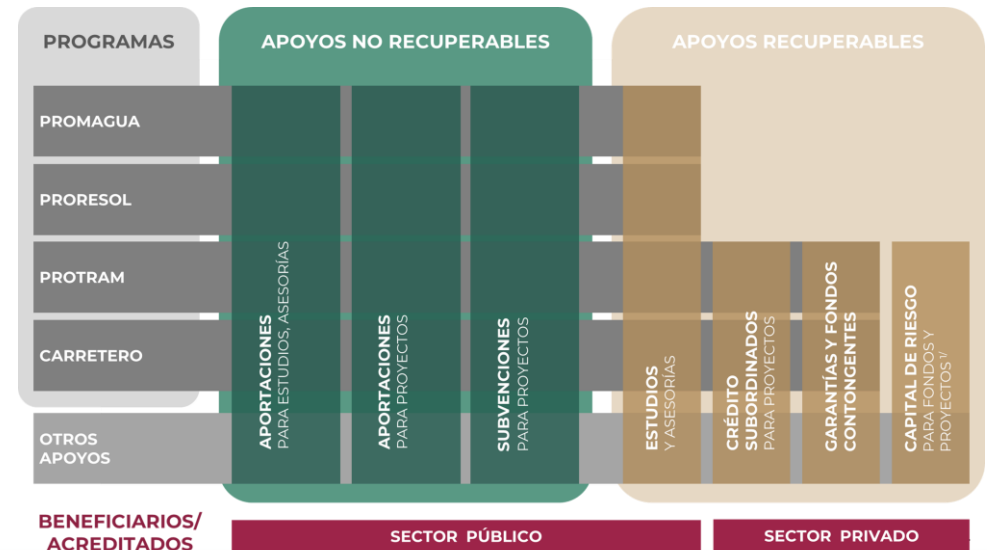
N°	Red Concesionada FONADIN operada bajo NMD	Longitud
1	Libramiento Cd. Valles - Tamuin	49,500
2	Libramiento Felipe Carrillo Puerto	14,140
3	Libramiento Villahermosa	24,000
4	Jala - Compostela - Las Varas y Ramal a Compostela	67,000
5	Guilfo Centro	141,880
6	Libramiento Oriente de Chihuahua	42,304

N°	En Construcción	Longitud
1	Libramiento Poniente Acapulco	39,707
2	Libramiento Orizaba	19,000
3	Autopista Barranca Larga - Ventanilla	104,200
4	Libramiento Puerto Vallarta	25,800
5	Libramiento Ciudad del Carmen	6,500
6	Libramiento Ciudad Juárez	31,700



RED CONCESIONADA FONADIN	LOGITUD
57 Tramos	4,497.41
Operado por CAPUFE e IDEAL	3,932.48
Operado bajo NMD	358.02
En construcción	226.90

Programs, Products & Client Base



Water Sector Challenges

A clear example of financial and idiosyncratic inefficiencies observed in Water Public Utilities' operations is seen in the comparison between the tariffs they charge for water provision and sanitation, the cost of one liter of bottled water in the street or the supermarket and the cost of water in “black markets” payed generally by the least favored sectors of the population.



In 2018 the tariff charged by Water Public Utilities for water service provision averaged \$0.014 pesos per liter (0.000625 US\$/lt) or 0.625 US\$/m³.

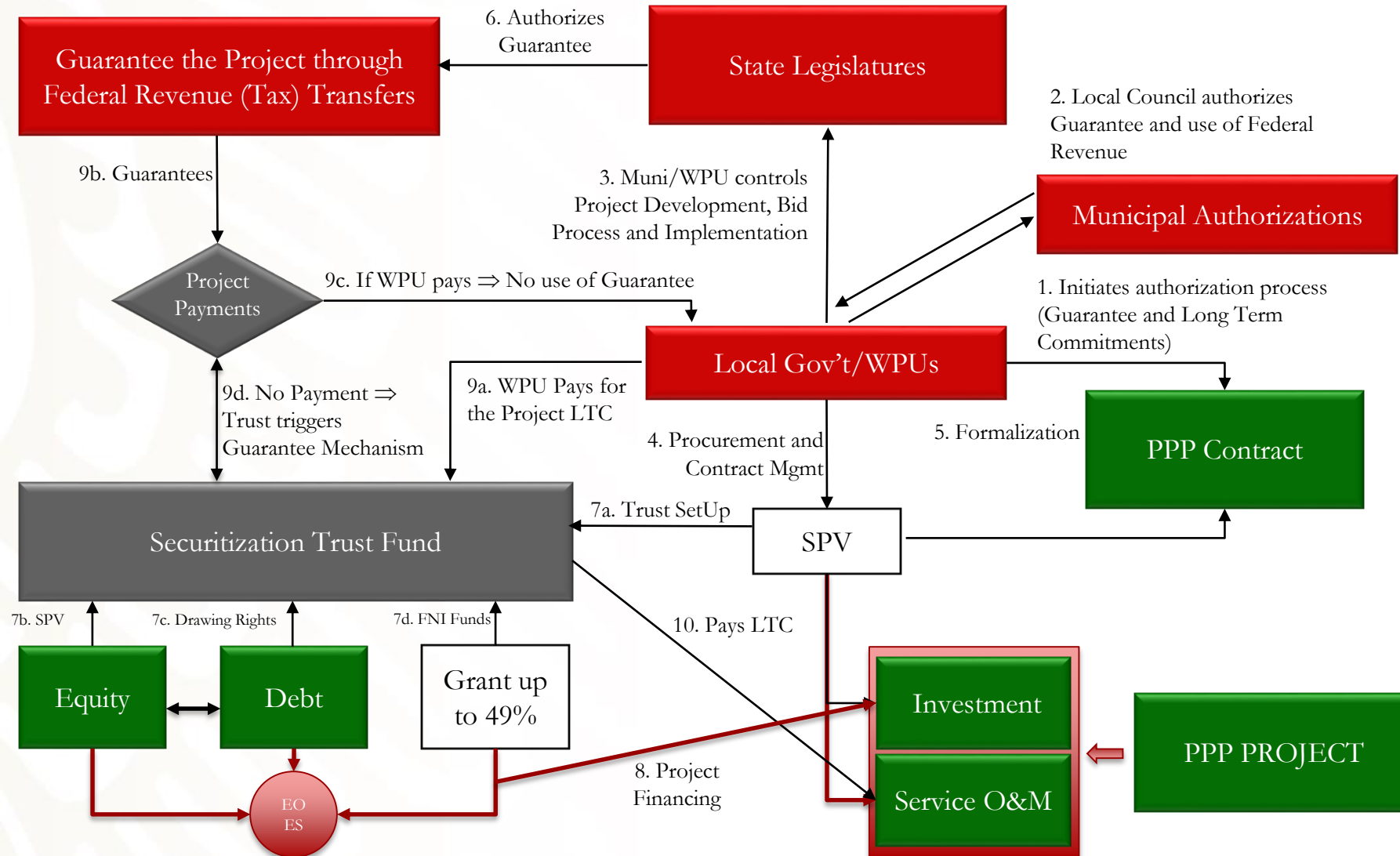


The cost per liter of bottled water is around \$1.83 pesos (0.079 US\$/lt) or 79 US\$/m³, equivalent to 127 times more expensive than the tariff of water provided by the Water Public Utilities.



In places where black markets for water are present, a family has to pay around \$0.19 pesos per liter (0.0082 US\$/lt) or 8.22 US\$/m³ to tanker truck operators that generally extract water from informal, unregulated or even illegal sources. This is still 13 times more expensive water than the tariff of water provided by the Water Public Utilities.

Traditional Project Structure



Los Cabos BCS

The Los Cabos Desal Plant and Financial and Operational Sustainability (FOS) Projects are among the most important bets of FONADIN in the last decade. The strategic nature of the Projects stems from the city's importance as one of the main tourist destinations in Mexico, and the dramatic pressure it faces to provide the population with adequate services.

- Project analysis began in 2012, and received support from FONADIN to develop all the feasibility studies (2013) to ensure availability of water for a horizon of 30 years.
- The gravely deficient operational and financial position of the WPU and the hydric stress observed in the municipality of Los Cabos obliged FONADIN and CONAGUA to develop a solution that not only ensured the construction of the Second Desalination Plant in Los Cabos (250 l/s), but also a project of intervention in the distribution network that maximized Value for Money and efficiency increases to make the WPU's commitments financially viable.
- A precondition to tender the Desal Plant was that the FOS Project was tendered in parallel, executed with the leadership of the IFC Transaction Advisory Services team engaged at the start of the current federal administration.
- The implementation of the two Projects, and expansion of INIMA's Desal Plant, will ensure that the community of San Lucas receives drinking water with quality and pressure 24/7 (over 40,000 water intakes and growth for the next ten years), but that the WPU will increase collections from the population to revenue levels that cover the service for all contracts, and meet other challenges related to water treatment, among other.