This is a new section of the Public-Private Partnership Resource Center website and is currently in draft form. Your feedback is welcome: If you would like to comment on the content of this section of the website or if you have suggestions for links or materials that could be included please contact us at ppp@worldbank.org.

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desalination plant

Desalination Plant, Ensenada, Mexico

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On this page: *A case study on Desalination Plant, Ensenada, Mexico. Find more at the Municipal Public-Private Partnership Framework - Project Summaries section for brief summaries of around 100 projects from around the world, examples of successes and challenges, as well as innovative ideas on solutions, or visit the Guidelines on Innovative Revenues for Infrastructure section.*

Project Summary:

Background

In 2012, the municipality of Ensenada in Mexico was facing deficit of water supply of 130 liters per second. Additionally, Ensenada's growing population; Valle de Guadalupe's developing winegrowing industry; the area's touristic boom; and the increase in commercial exchange with East Asia were further straining this already insufficient supply. To help address this issue, the public authorities decided to pursue the construction of desalination plant in Ensenada.

Project Structure

The project consists of a 20-year concession for the design, construction, operation, and transfer of a desalinization plant that will have a nominal production of 250 liters of desalinated water per second (7.884.000 m3 of drinking water per year) through reverse osmosis. In addition to the desalination plant, the planned works include facilities for seawater capture, pre-treatment and post-treatment; a pumping station; pressurized pipeline; concentrate discharge system to the ocean; storage tanks; pumping plants; and pipelines to connect the plant to Ensenada's water distribution system.

The contracting authority is Baja California's water state commission - Comisión Estatal del Agua de Baja California (CEA). The project was awarded through an international public bidding process to OHL Medio Ambiente Inima S.A.U. (Inima), which after the award established an SPV called Aguas de Ensenada, S.A. de C.V, on August 31, 2011. The project cost is estimated at more than MXN 1 billion (USD 50 million). The project is to be financed by an MXN 490 million (USD 25 million) loan from the North American Development Bank; MXN 162 million (USD 8 million) in non-reimbursable federal resources from the national infrastructure fund - Fondo Nacional de Infraestructura; and MXN 355 million (USD 17.8 million) in private financing. The rate of return was 17.55 percent. The contract provided that at least 25 percent of the capital provided by the private partner must come from the investor's risk capital and the remaining amount may be complemented through loans.

The project's funding source is a payment and administration trust (fideicomiso de administración y pago), which will backstop and cover the investment fixed tariff and the operation and maintenance fixed tariff. The Fideicomiso will be established by the public services state commission - Comisión Estatal de Servicios

Públicos de Ensenada (CESPE), with the revenues obtained from the rights per water consumption services. The establishment of the Fideicomiso is a precondition to the contract entering into force. Once the contract enters into force, CESPE will continue depositing money into the Fideicomiso, with a view to creating a contingent fund of a sum equal to six months of the consideration plus VAT that CEA is obliged to pay to Aguas de Ensenada monthly.

Among the risks retained by the public sector are the portion of non-reimbursable financing provided by the Fondo Nacional de Infraestructura and the contract payment and demand risks. The risks transferred to the private partner include: obtaining necessary permits; carrying out investments and expenses necessary to realize the project (that is: to construct, furnish, test, operate, and maintain the plant); and meeting the quality standards established in the contract. The design, risk capital contribution, and loans are the sole responsibility of the private partner.

CEA's monthly payment comprises the following sums: a) fixed cost for investment executed with credit; b) fixed cost for investment executed with risk capital; c) fixed cost for investment; d) fixed cost for operations; e) variable cost of operation per m3 of drinking water; f) monthly volume in cubic meters of drinking water measured at the exit of the plant.[1] The plant started operations on June 2018.[2]

Lessons Learned

The project provides a key lesson learned on blended financing options. In this case, the project was able to mobilize several different financing sources under the State Development Plan, which sets the guidelines to properly manage the resources from different financing sources for water investment programs. As a result, the public authorities were able to combine and leverage a combination of resources available at the federal and state levels and from international financing institutions, to optimize their application.

Footnote 1: Case Source: http:// www.cca.org.mx/ ps/funcionarios/ muniapp/descargas/ Documentos_ de_apoyo/ informaciontematica/ capp/Caso_ PlantaDesaladora_ Ensenada.pdf; https:// www.proyectosmexico. gob.mx/proyecto_ inversion/0839- planta-desaladorade- ensenada/; http:// www.becc.org/projects/ certified-projects/ desalination-plantensenada- bajacalifornia Accessed on April 5, 2019.

Footnote 2: http://www.nadb. org/Reports1/ Press_Releases/ spanish/2018/110618. pdf Accessed on April 5, 2019.

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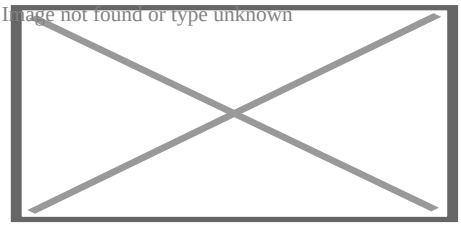
Additional Resources

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The Guidelines on Innovative Revenues for Infrastructure (IRI) is intended to be a living document and will be reviewed at regular intervals. They have not been prepared with any specific transaction in mind and are meant to serve only as general guidance. It is therefore critical that the Guidelines be reviewed and adapted for specific transactions.

To find more, visit the Innovative Revenues for Infrastructure section and the Content Outline, or Download the Full Report. For feedback on the content of this section of the website or suggestions for links or materials that could be included, please contact the Public-Private Partnership Resource Center at ppp@worldbank.org.

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