

21. Desalination Plant, Ensenada, Mexico



Photo Credit⁴⁵

Background

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

Project Structure

The project consists of a 20-year concession for the design, construction, operation, and transfer of a desalination 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 included 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, following the award, established an SPV called Aguas de Ensenada, S.A. de C.V. on 31 August 2011.

The project cost was estimated at more than MXN 1 billion (USD 50 million). The project would 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 forecasted at 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 that 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 would be established by the public services state commission, Comisión Estatal de Servicios Públicos de Ensenada (CESPE), with the revenues obtained from the rights granted under the water consumption services. The establishment of the fideicomiso was a precondition to the contract entering into force. Once the contract entered into force, CESPE would 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.

The CEA's monthly payment comprises the following sums: a) a fixed cost for investment executed with credit; b) a fixed cost for investment executed with risk capital; c) a fixed cost for

⁴⁵ Beau Hudspeth - Digi-Gen Design Studios - Photography (<https://commons.wikimedia.org/wiki/File:Ensenada-mexico-night-flag-sm.jpg>), „Ensenada-mexico-night-flag-sm", <https://creativecommons.org/licenses/by-sa/2.5/legalcode>

investment; d) a fixed cost for operations; e) a variable cost of operation per m³ of drinking water; and f) the monthly volume in cubic meters of drinking water measured as it exits the plant.⁴⁶ The plant started operations in June 2018.⁴⁷

Lessons Learned

This project shows how different financing options can be successfully blended in one project. In this case, the project was able to mobilize

several different financing sources under the State Development Plan, which sets guidelines for properly managing resources available through 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 as well as from international financing institutions, to optimize their application.

⁴⁶ Campos, Maria. 2013. "Prestación de servicios públicos municipales en asociación público-privada: El caso de la Planta Desaladora en Ensenada, Baja California." CCA. Accessed May 25, 2019. http://www.cca.org.mx/ps/funcionarios/muniapp/descargas/Documentos_de_apoyo/informaciontematica/capp/Caso_PlantaDesaladora_Ensenada.pdf;

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⁴⁷ NADB. n.d. "Investing in the People & Environment of the U.S.- Mexico Border." NADB. Accessed April 5, 2019. http://www.nadb.org/Reports1/Press_Releases/spanish/2018/110618.pdf.

⁴⁸ Photo Credit: Roland (https://commons.wikimedia.org/wiki/File:Dar_es_Salaam_aerial.jpg), "Dar es Salaam aerial", <https://creativecommons.org/licenses/by-sa/2.0/legalcode>

22. Challenging Case: The Dar Es Salaam Water and Sewerage Authority (DAWASA), Dar es Salaam, Tanzania



Photo Credit⁴⁸

Background

Dar es Salaam is Tanzania's former capital and largest city. Before this project, the city's water and sewerage infrastructure, built in the 1970s, was in poor condition, even posing significant potential health hazards. In 1997 the government established the Dar es Salaam Water and Sewerage Authority (DAWASA) to develop and operate the city's water infrastructure. However, it failed to provide much improvement to the city's water and sewerage system. Leakage and illegal connections contributed to around a 50 percent loss of the water produced. Equipment was outdated and the billing and collection system was extremely inefficient. Filters and sewage pumping stations were out of operation, resulting in partial treatment of water and significant pollution of the coastline. Revamping the entire system would require a considerable amount of money.

In 2002, the International Monetary Fund (IMF) and the World Bank offered debt relief assistance to Tanzania under the condition that the Government of Tanzania privatize its SOEs, including DAWASA. The government agreed.

Project Structure

Following a recommendation by the IMF, the government invested around USD 145 million to upgrade DAWASA before selling the company. Multilateral donors provided loans to the Tanzanian

government to finance the project. The African Development Bank (AfDB) provided a loan of about USD 47 million, while the World Bank, the European Investment Bank, and Agence Française de Développement (AFD) provided a total of USD 98 million in financing. The World Bank also contributed another USD 61.5 million for restructuring DAWASA.

The project underwent six years of negotiations with private companies and several bidding processes. Initially, there were four private companies interested in the project, namely Northumbrian Water Group, Saur Internationale, Vivendi Environment (also known as Veolia Environment), and Biwater Gauff Tanzania Limited (BGT). However, three of the four companies pulled out due to concern over the high level of risk transferred to the operator. BGT (a joint venture between United Kingdom-based Biwater International and a German engineering firm, HP Gauff Ingenieure) then became the sole bidder, though it never fully satisfied the qualification criteria. As a result, BGT won the bid with no-objection from the World Bank as the transaction advisor.

Following the award, BGT created an operating company called City Water Services Limited (CWS) in partnership with a local investor, Super Doll Trailer Manufacture Company Limited (STM). BGT owned 51 percent (the minimum required by the winning bidder) of the shares in CWS and