

28. Municipal Solid Waste Treatment Project, Wenzhou, China



Photo Credit⁶²

Background

The City of Wenzhou was generating approximately 400,000 tons of household waste each year, with an annual growth rate of 8-10 percent. Household waste was collected and disposed of in two existing landfills that were approaching maximum capacity. In 2002, the local government decided to pursue a PPP to address the issue.

Project Structure

The local government entered into a PPP with a local private company, Wei Ming Environmental Protection Engineering, to build and operate a new municipal solid waste (MSW)-to-energy incinerator plant. The incinerator plant was designed to handle 320 tons of MSW per day and generate up to 25 million kWh of electrical power annually. The project was broken down into two phases. In the first phase, the plant would be expected to treat 160 tons of MSW per day. This would enable the plant to produce 9 million kWh per year, of which 7 million kWh would be available for sale. The second phase would then add another 160 tons per day in MSW treatment capacity to the facility.

The private contractor agreed to invest a total of CNY 90 million (USD 13 million) to build the plant and then operate, manage, and maintain it for 25 years, excluding a two-year construction period. The private partner will transfer the plant to the government without any additional compensation at the end of the 25-year concession. It was forecast that the project would break even after 12 years of operation.

The private contractor is entitled to the following support from the public partner: (i) a service or tipping fee for the disposal of MSW assessed at a rate of CNY 73.8 (USD 11) per ton; (ii) an exemption from paying corporate income taxes for the first five years of operation; and (iii) an immediate refund of VAT. The private partner generates revenue through sales of the electricity generated by the plant and the waste disposal service fee paid by the city.

The project was facilitated by: (i) China's 2005 Renewable Energy Law, which required electrical power network operators to purchase electricity generated using renewable sources; and (ii) China's Regulation on the Price of Electricity from Renewable Energy and Fee Sharing, which raised the electricity tariff for electrical power generated by MSW-to-energy facilities from CNY 0.54 (USD 0.08) per kWh to CNY 0.66 (USD 0.10) per kWh.

The plant has been in operation since 2003.⁶³

Lessons Learned

This project highlights how targeted legal and regulatory reforms can support the delivery of PPP projects. In this case, the project was aided by, inter alia, legal changes that increased both the demand for the project output and the tariff charged for that output, as well as a targeted tax incentive.

⁶² Pascal3012 (https://commons.wikimedia.org/wiki/File:Vue_générale_de_Wenzhou.JPG), „Vue générale de Wenzhou“

<https://creativecommons.org/licenses/by-sa/3.0/legalcode>.

⁶³ ADB. 2010. "Urban Innovations and Best Practices." ADB. Accessed April 1, 2019. <https://www.adb.org/sites/default/files/publication/27864/urbandev-prc-nov2010-waste.pdf>.