



Geosyntec is applying its technical, commercial, and financial acumen to support the IDB's mission of rapid modernization of waste and recycling services.

**Client:** Inter-American Development Bank (IDB), Washington, D.C.

**Services Provided:**



- ✓ Operations and Cost of Service Assessment
- ✓ Commercial Due Diligence
- ✓ Review of Institutional Capacity and Mechanisms for Service Delivery
- ✓ Technical Due Diligence
- ✓ Financial Analysis and recommendations
- ✓ Financial Risk Evaluation (DNPV)

### Project Background and Objective

The city of Quetzaltenango (Xela), Guatemala has been experiencing serious deficiencies in its public solid waste management (SWM) services. While the percentage of the population with regular collection of waste is relatively high, the service is not mechanized, collection and transportation is inefficient, rates of recycling are low, and urban sanitary conditions are generally poor. The city currently sends its waste to a dumpsite that does not meet minimum environmental, health, and social standards. Geosyntec was retained by the IDB to design improvements in the integrated solid waste and recycling services in Xela at the stages of collection, separation, treatment and recycling, and disposal. Importantly, the project will be structured such that some or all services are provided under a public-private partnership (PPP) or similar concession. Key to the success of this approach is communication and engagement with the mayor's office, municipal government officials, and the general public.

### Geosyntec's Scope of Services

Geosyntec prepared a commercial feasibility of delivering the project under various mechanisms. A workable project needs to be technically, environmentally, socially, and financially viable. Geosyntec analyzed realistic project development and delivery scenarios to assess their lifecycle costs, expected cash flows, and required tariff burden and availability payments to determine whether these were in line with the municipality's fiscal priorities and acceptable risks. Undeveloped land is at a premium in Xela; therefore, to avoid a large future capital investment for land acquisition, the existing dumpsite must be remediated and expanded into a modern landfill operation as part of the project. Rather than comparing different commercial mechanisms using typical contract periods, Geosyntec introduced the concept of Disposal Asset Life (DAL) for the landfill to convey to the municipality that any financial evaluation had to focus on preserving the DAL by emphasizing waste diversion through recycling and composting. Geosyntec performed a financial evaluation using typical discounting techniques as well as its innovative valuation model: Decoupled Net Present Value (DNPV).

Scenario	Recycling	Compost	Env. & Social Benefit	Existing Site Life	Capital Required	Operating Cost	Lifecycle Costs over 70 Years (Q millions PV)
Do nothing 	No	No		<10 Years	\$\$\$\$	\$	520
Landfill only 	No	No		25 Years	\$\$	\$	503
+ Separation 	Yes	Yes		>50 Years	\$\$\$	\$	509

### Notable Accomplishments

Geosyntec's unique blend of technical expertise in solid waste and our advisory capacity in transactions involving private sector concessions facilitated development of cost-effective solid waste and recycling services and a landfill disposal facility that satisfies international best practices. When fully implemented, this project will be the first solid waste PPP concession for the IDB and will serve as a bellwether for projects in Latin America.