



Conestoga-Rovers & Associates Project Summary

KEY PROJECT ELEMENTS

- Energy Cell Demonstration Project
- Landfill Design, Construction, and Operation
- Design and Construction of Energy Cells
- LFG Collection System and Flares
- GHG Credits Through Emission Reduction
- Construction Oversight

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ENHANCED ENERGY CELL DEMONSTRATION PROJECT

TUCUMÁN, ARGENTINA



DURATION: MARCH 2000 - PRESENT
COST: \$1,200,000

The Pacara Pintado Landfill is located in the Municipality of La Banda del Río Salí in the Province of Tucumán in northwest Argentina.

In 2000, CRA undertook an energy cell (biocell) demonstration project in partnership with Industrias Metalurgicas Di Bacco S.A.(Di Bacco), Tensolite S.A., Secretariat of the Environment for the Province of Tucumán, and the Federal Secretariat of Sustainable Development and Environmental Policy (SAyDS). The project was funded by Technology Early Action Measures (TEAM), which comprises three Canadian government agencies: Industry Canada, Environment Canada, and Natural Resources Canada.

The project objective was to establish and demonstrate a sustainable and replicable greenhouse gas (GHG) emissions abatement program through placement of solid waste in an engineered energy cell in order to generate landfill gases (LFG) under controlled conditions.

The project consisted of the following key aspects:

- Project development, including site selection and regulatory discussions
- Detailed design of landfill site and energy cell including site preparation, liner placement, leachate collection system, field construction oversight, refuse sorting and placement, cell coverage system, and fuel conditioning system
- Construction of two fully-instrumented (30 m by 50 m) energy cells
- Construction of landfill gas (LFG) collection system and direct flares
- Complementary design modifications
- Operation and maintenance over a two-year period
- The assessment of the Enhanced Greenhouse Gases (GHG) emissions reduction potential achieved by the energy cell technology over a two-year period, in terms of both enhanced generation of landfill gas and abatement of global warming emissions

The project was implemented successfully and demonstrated that landfill gas is generated at a much faster rate as compared to conventional landfills. The energy cell represents a leading edge technology for the sustainable management of municipal solid waste and climate change protection (including GHG reduction credits) and provides a cost-effective alternative to conventional landfilling practices.