



Ministry of Environment  
Egyptian Environmental  
Affairs Agency

## Egyptian Pollution Abatement Project (EPAP II)

# Success Stories



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<b>Project:</b>	<b>Installation of HOTDISC for Alternative Fuel Use</b>
<b>Company:</b>	<b>Arabian Cement Company</b>
<b>Location:</b>	<b>Ain Sokhna, Suez Governorate, Egypt</b>
<b>Total Cost:</b>	<b>EGP 90.0 million</b>
<b>EPAP II loan:</b>	<b>EGP 70.0 million</b>

### **Introduction**

Arabian Cement Company (ACC) formed a joint venture company in 2004 to build a 4.2 MT cement plant, located at Ramliya, 70kms east of Cairo in Suez Governorate.

ACC currently operates two lines each with a design capacity of 6,000 tpd of clinker. Line 1 was completed in 2008 and the second line in 2010. Electrostatic precipitators are used for dedusting the kiln/raw mills, by-pass and clinker cooling. Employees total 1,000.

### **Environmental Problem:**

The plant used natural gas, with diesel in emergency. Energy consumption averaged 780 kcal/kg clinker. Emissions from the main stacks averaged less than 100 mg/m<sup>3</sup>.

The company wished to reduce its dependence on fossil fuels with the aim of achieving 30% fuel substitution with alternative fuels, primarily agricultural waste and pre-sorted municipal waste. Creating a market for alternative fuels would help reduce the burning of such waste, which have contributed to Cairo's air pollution.

### **EPAP II Support:**

ACC selected the HOTDISC system, the first time such technology has been used for alternative fuels in Egypt, for installation on Line 1. The HOTDISC is an effective combustion device that can burn all kinds of solid wastes in sizes up to 1.2m in diameter thereby reducing the investment and operational cost of pre-treatment and intermediate storage of wastes. The HOTDISC was integrated with the pre-heater and calciner system on Line 1 and installed along with a complete receiving, storage, dosage and transportation system for the alternative fuels.

Initially, 75,000 tpa of alternative fuels (municipal waste, agricultural waste and sewage sludge) will be used on Line 1 as calciner fuel.

The overall cost of the project was EGP90 million. EPAP II provided a loan of LE70 million with a 20% grant.

### **Environmental Benefits:**

Around 75,000 tpa of municipal and agricultural waste and sewage sludge will be disposed safely and result initially in a 16% thermal substitution of fossil fuels. Net reduction of CO<sub>2</sub> emissions is >30,000 tpa.

With the introduction of alternative fuels ACC remains compliant with the environmental law with no significant changes to gaseous emissions.

### **Economic Benefits:**

The project is considered economically viable showing an IRR >15%, and a payback period of around 5 years. 12 jobs at the plant have been created and additional work will result from the transportation of waste.