

## **Case Summary**

### **Arabian Cement Company (ACC)**

#### **Company Information:**

Contact Person: Mr.Adel Ezzat  
Position: Alternative Fuel Project Manager  
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Sector: Private  
Project Title: "Using alternative fuel partially in cement kiln- line 1"  
Type of Project: Air pollution control

#### **1. Basic Information:**

##### **1.1 Main Products:**

Cement	4,500,000 t/y
Clinker (intermediate)	4,200,000 t/y

##### **1.2 Raw Materials:**

	<b>Ton/year</b>
Limestone	3,867,259
Iron Ore	1,108,654
Pyrite	53,020
Sand	64,201
Slag	2,540
<b>Utilities</b>	
<b>Water</b>	
Domestic	18,250 m3
Process	466,150 m3
Other	
<b>Fuel</b>	
Natural gas fuel Nm3/year	210,680,693 Nm3
Heavy fuel ( Mazot )	-
<b>Electricity:</b>	
National grid	31,8603 Mwhr/y
Self generated	-

##### **1.3 Project Location:**

KM 94,kattameya Ein sokhna old suez road.

#### 1.4 **Project Objectives:**

Quantity and kind of wastes that will be consumed:

Year	Kind of Waste	Quantity
2013	RDF	50,000 t/y
	Agriculture waste	10,000 t/y
	Sewage sludge	10,000 t/y
2015	RDF	10,000 t/y
	Agriculture waste	20,000 t/y
	Sewage sludge	20,000 t/y

#### .5 **Project Description:**

The alternative fuels like RDF, dry sewage sludge, agriculture wastes or shredded tires, shall be delivered by trucks to the alternative fuel receipt area. Offloading of trucks is done by a mobile crane. The floor of the storage area is of sufficient strength for loading/unloading vehicles e.g. front end loader, mobile cranes etc. As there is a potential fire hazard the storage area, receiving area and adjacent fuel preparation area is equipped with an appropriate fire fighting system. For the preparation of the alternative fuel the waste materials are moved by a front end loader to the hopper of the fuel preparation feed conveyor, then the material is fed to a shredder. A metal detector is installed 6 meters upstream of the conveyor head pulley to safeguard the shredder from any metal intrusion. In case a metal is detected the conveyor will be stopped and an audible alarm is given. Optional a diverter chute can be installed allowing a small slip stream passing the shredder feeding chute. The shredded alternative fuel is transported from the shredder to the storage container via drag chain conveyor. To ensure a dust free working environment at the shredder area and the storage container filling a dedusting system is installed.

From the storage container the shredded alternative fuel is transported via a pipe belt conveyor and is weighted through a weigh feeder, and then the shredded alternative fuel is injected into the preheater calciner of kiln.

#### .6 **Project Components:**

- Baler machine
- Daily storage area
- Shredder
- Conveyers
- Special Vehicles for transportation
- Complete Dosing & injection system

#### 1.7 **Estimated Project Cost:**

Estimated cost is US \$ 4.4 Million which is US \$ 4 Million will finance from EPAP II

#### 1.8 **EPAP II Technical Support:**

EPAP II TA will prepare:

- Environmental audit.
- Compliance Action Plan

EPAP II PMU will assist the company in preparing:

- Tender document
- Self monitoring plan.
- procurement procedures
- Technical agreement

## 2. **Eligibility Criteria**

### 2.1 **Environmental:**

- Major contribution to reduction of CO<sub>2</sub>- emissions (Kyoto-target)
- Avoid landfill of organic waste that leads to gas emissions
- Avoid landfill of slag and ashes
- Avoid combustion in dedicated incinerators that adds CO<sub>2</sub> emissions without any associated benefit
- Preservation of resources: very efficient second use of otherwise discarded materials
- Cost reduction of clinker production by use of less expensive fuels
- No significant change of specific emissions (per kg clinker)

### 2.2 **Financial:**

- The project costs about US\$ 4 million

## 3 **Current status of project procedures**

3.1 **Steering committee approval:**           **Approved**

3.2 **Co-financers approval:**                   **(Received No-Objection)**

### 3.3 **Technical Procedures:**

Technical Document	submitted	Approved	Date
Environmental Assessment	Y	Y	October 2012
Compliance Action Plan (CAP)	Y	Y	October 2012
Environmental Impact Assessment (EIA)	Y	Y	22/5/2012
Technical Agreement	Yes	Yes	Nov 2013

### 3.4 **Implementation Procedures:**

#### 3.4.1 **Procurement Procedures:**

- The company will follow its commercial practice acceptable to co-financer condition to issue (1 stage bidding documents) a commercial competitive practice (CCP) for installing Alternative plant.

### 3.4.2 Status of Implementation:

Technical Document	submitted	Date	
		Achieved	Planned
Credit worthiness certificate	Y	9/2/2012	Jan 2012
Sub-loan Agreement	Y		Dec 2012
Bidding document	Y	21/10/2012	Oct 2012
Technical and financial Evaluation	Y	Jan 2013	Dec 2012
Contract Signed	Y	Jul 2013	Jan 2013
Installation and Commissioning			Dec 2013