Case Summary
Delta steel company

Fuel switching of the pre-heating furnace from mazot to natural gas

Company information:

Contact Person:	Eng/ Asad
Position:	The head of the industrial sector .
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Sector:	Public Company.
Number of labors:	1448
Project Title:	Fuel switching of pre-heating furnace from mazout to natural gas
Type of Project:	Air pollution control.

1. **Basic Information:**

1.1 **Main Products:**

Main Products	Average Annual production ton/year
Hot rolled steel 37, 40/60 and 52 rods ofØ12-38 mm	72,000
Wire mesh	600
Cold drawn products	400
Steel and gray cast iron products	2,100

1.2 **Raw Materials:**

Raw Material	Average Annual Quantity ton/year
Scrap	28,025
Steel ingots	46,098
Welding wires	697
Catalysts	788
Acids (concentration 35-95%)	60
Alkaline (concentration 33%)	60
Salts (concentration 100%)	40
Detectors (concentration 100%)	One
Acids (concentration 35-95%)	60
Alkaline (concentration 33%)	60

1.3 **Project Location:**

El-Kilo 4.5 – Elasmaalia Cannel – Mostord – Quliobya.

1.4 **Project Objectives:**

- Reduction of the gas emissions of (SOx, NOx, CO) to comply with the environmental law no. 9/2009 and improving work environment and surrounding area.

Location	Parameter	Concentration mg/m^3		law Limits 4/1994 mg/m^3	Load, tons/yr		Reduction
		before	after		before	after	
The semi automatic preheating furnace	CO	715	19.25	500	36	1.46	96%
	TSP	1121	42.25	--	157	4.443	97%
	SO_2	3125	1	3600	56	0.103	99.8%

1.5 **Project Description:**

-The Delta Steel mill company has three main plants, which are: steel making shop, shaping section, and foundries. The shaping section consists of two re-heating furnaces, one is fully automatic controlled and is working with Natural Gas, and the other one is semi-automatic furnace and is working with heavy fuel (Mazot).

- Mazot used in the semi-automatic controlled furnace is a source of SO_2 emissions. The company is proposing to switch from mazot to Natural Gas.

6. Project Components:

Replacement of burning system of the pre-heating furnace including the following:

- Seven Burners.
- Control of air fuel ratio.
- Leakage tester.
- Automatic control for each zone for min/max pressure gas and air.
- Scavenging air (purging).
- Control for temperature of each zone to control burners operation.
- Oxygen trims measuring.
- Flame detector.
- Pilot burner.

1.6 **Actual Project Cost:**

The total cost is MUS$ 0.296 with a finance from EPAP II of about MUS$ 0.175

1.8 **EPAP Technical Support:**

- EPAP II hired an international consultant (Bibro consultant through CP audits Contract) to Prepare the environmental audit
- EPAPII PMU has assisting the company in preparing CAP

2. **Eligibility Criteria**

2.1 Environmental:

- The project results are compliance of stack emissions with respect to CO and TSP. A reduction of 50% will be achieved for CO and TSP respectively. Although SOx concentration is not the main concern as it is within the limits of the law, also it will be reduced by 50% NOx emissions are within the limits of the law 4/94.

2.2 Financial:

- The project payback period is1 year
- The project cost is less than US$ 8 million

3 Current status of project procedures

3.1 Steering committee approval: approved

3.2 Co-financers approval: N/A

3.3 Technical Procedures:

Technical Document	submitted	Approved	Date
Environmental Assessment	Y	Y	May2008
Compliance Action Plan (CAP)	Y	Y	31/8/2008
Environmental Impact Assessment (EIA)	Y	Y	9/9/2008
Technical Agreement	Y	Y	10/9/2008

3.4 Implementation Procedures:

3.4.1 Procurement Procedures:

The company used its commercial practice to issue a limited tender between 7 suppliers on 08 Aug. 2007, 3 Suppliers out of 7companies submitted technical offers. At the 22/8/2007 ,The company has evaluated the technical on 20/4/2008 ,The company open the financial offers on 22/6/2008, The company has sign the contract on 3 /8 /2008.

Finally The Company has done the commission and start up of the project on 25/6/2009.
The company has submit the first spot verification on27/10/2009.
The company has submit the second spot verification on 14/1/2010.
The company has submit the third spot verification on 27/4/2010.
The company has submit the fourth spot verification on 26/7/2010.

3.4.2 Status of Implementation:

Technical Document	submitted	Date	
		Achieved	Planned
Credit worthiness certificate	Y	7/6/2007	
Sub-loan Agreement	Y	20/10/2008	
Bidding document	Y	7/8/2007	
Technical and financial Evaluation	Y	22/6/2008	
Awarding and Contracting	Y	3/8/2008	
Installation and Commissioning	Y	025/6/2009	
Monitoring: Q1:	Y	27/10/2009	
Q2:	Y	14/1/2010	
Q3:	Y	27/4/2010	
Q4:	Y	26/7/2010	