



**FEDERATION OF EGYPTIAN INDUSTRIES**  
Environmental Compliance office and Sustainable Development

ECO - Environmental Compliance Office and  
Sustainable Development

FEI- Federation of Egyptian Industries

## **ECO Profile**

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## ECO Vision

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*ECO aims to support Egyptian industry in achieving sustainable development through green economy.*

## ECO Mission

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### **Mission Statement**

Promoting green economy; aiming to achieve the sustainable development concept, enhance the competitiveness of the Egyptian industry and improve the environmental and social conditions."

ECO's aim:

- to encourage industry's compliance with environmental legislation
- to promote environmental investments
- to assist and implement energy efficiency projects
- to improve the occupational health and safety situation in enterprises
- to create investment and export opportunities for our clients

To achieve this, ECO provides premium consultancy services on a commercial base to the private sector, builds capacity and contributes to establishing the necessary framework for facilitating the promotion of Environmental Compliance, Energy Efficiency, and Environmental Management Systems.

ECO has established itself as a focal point for Cleaner Production, Environmental Management and Energy Efficiency activities within various industrial sectors.

## Values in ECO

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ECO operates with six values. The following explains how we perceive and interpret them.

### ***International***

ECO wishes its clients to profit from its international platform founded on its closeness to international donors and financial institutions. ECO sees these institutions as important partners. In addition, ECO attaches great importance to its staff having qualifications that are internationally recognised. Finally, ECO wishes its clients and staff to benefit from ECO's relationship with international consultants who can add to the knowledge of ECO's own staff and clients.

### ***Close to the market***

ECO believes that to be a competent sparring partner to its clients, ECO must have a deep knowledge of the market in which its clients operate. ECO therefore attaches great importance to being located in the FEI and to having a close relationship with relevant FEI chambers. ECO believes in building relationships not

only with individual enterprises, but with the enterprise clusters. Thus ECO believes in an individual as well as an organisational approach to Egyptian industry.

### ***Highly qualified***

ECO believes in each individual member of its staff. To be an ECO staff member a person must have more than academic competences. He or she must have social competences too. An ECO staff member is always highly qualified in their particular field and where appropriate certified according to international standards. Having social competences implies that each staff member is a team player, a person who enjoys working with others to help ECO's clients to achieve their goals.

### ***Respect***

ECO believes that in all its contacts with clients and stakeholders respect and tolerance for each others' viewpoints, cultures and religions are fundamental for good cooperation. Therefore ECO staff always behaves with respect towards others and each other.

### ***Corporate Social Responsibility (CSR)***

ECO believes that its operations should be targeted at reducing poverty and helping Egyptian society to achieve that goal. As a result of this philosophy ECO focuses on improving the working conditions of workers wherever possible.

ECO believes in equality between both sexes. ECO is committed to recruiting both sexes and at all levels. ECO strives in its work with Egyptian enterprises to focus on and improve gender equality and the working conditions for women.

ECO is committed to a clean and green environment. It is fundamental to ECO that the services it offers help Egyptian industry to comply with environmental legislation to the benefit of the Egyptian society.

### ***Holistic approach***

ECO believes in looking at its clients in entirety. This means that at ECO we take all aspects of an enterprise into consideration when looking at possible solutions - environmental, financial and social as well as the well-being of the enterprise's employees.

## **ECO History**

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The "Environmental Compliance Office at the Federation of Egyptian Industries (ECO) was set up in 2002 by the Egyptian Government in accordance with article 3 of presidential decree no. 64 of 2001.

ECO provides premium consultancy services on a commercial base to the private sector, builds capacity and contributes to establishing the necessary framework for facilitating the promotion of Environmental Compliance, Energy Efficiency, and Environmental Management Systems.

## **Who are we?**

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We are a consulting office/centre at the Federation of Egyptian Industries (FEI) dealing with Environmental Compliance and related activities to the benefit of

Egyptian industry. We are a team of 17 employees. 8 of us are specialised in Cleaner Production, Environmental Management Systems and Energy Efficiency as well as other environmental methods. We provide services to engineering, metallurgy, food, textile, chemical, leather, leather tanning and Wood Working & Furniture Industries

ECO aims to promote Cleaner Production methods in Egyptian industry and to support the industry in its efforts to introduce CP methods, practices and technologies. Our aim is furthermore to:

- encourage industry's compliance with environmental legislation
- promote environmental investments
- Improve the occupational health and safety situation in enterprises.
- Create investment and export opportunities for our clients.

Improving working conditions for poor workers of both genders at a factory applying an effective Environmental Management System is a natural result of the services offered by our office as well.

We also aim to link/operate with other donor agencies, EEAA, research and development institutions, consultancy firms, and FEI members in our efforts to assist Egyptian industry in implementing Cleaner Production methods and technologies.

## Services offered

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ECO's dynamic team is always happy to develop new solutions and services to meet our varying clients' needs and requirements.

Below is a list of the services we provide:

- Training needs assessment and preparation of certification:

ECO Label

ISO 14001

OHSAS 1800

- Consultancy services to qualify enterprises for access to soft loans, and assistance in the application procedures.
- Prepare feasibility studies related to enterprise environmental compliance and developmental projects
- Environmental Impact Assessment (EIA) and necessary licenses
- Assessment of enterprises for Cleaner Production (CP) applications
- Environmental reviews for industrial enterprises
- Clusters environmental surveys
- Environmental measurements inside and outside enterprises
- Improve and adjust functioning thermal units (ovens and boilers) in various industrial sectors.
- Energy Efficiency Preparation of Project Documents (PDD) including the necessary feasibility studies and any relevant assessments, and obtaining all essential certifications in the field of Clean Development Mechanism (CDM)

- Energy Efficiency audits in different sectors
- Environmental Registry and relevant measurements
- Renewable energy applications (Solar, wind Biomass, Biogas and waste energy recovery).
- Carbon footprint study and assessment.

ECO frequently launches kick-off workshops for various sectors of industry and in selected Governorates throughout Egypt. A full day is allocated for conducting such a workshop and apart from ECO staff representatives for the relevant FEI Chamber, EEAA, NBE and the Governorate take part.

### **How do we do it?**

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ECO implements Cleaner Production technologies and supports Environmental Management through the following activities:

- We support investments in Cleaner Production by access to soft loans.
- We support enterprises by providing consultancy services in CP, EMS, EE, OHS and other related areas.
- We plan, arrange and carry out training of executive, managerial and administrative staff as well as workers.
- We arrange study tours abroad to familiarize our clients with state-of-art technologies.

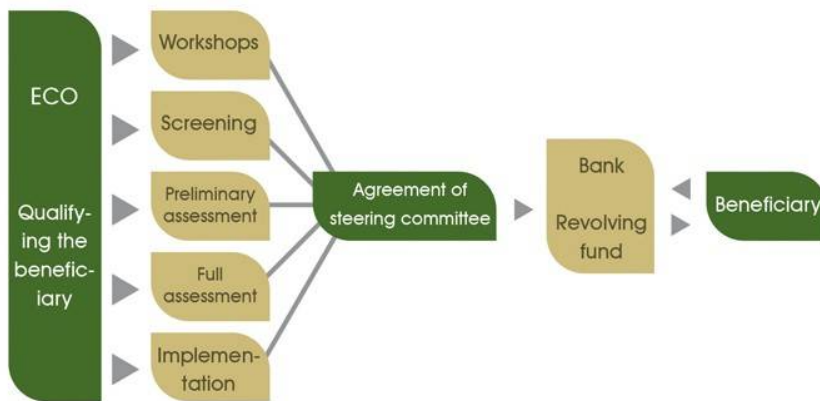
### **Revolving Fund / Financial Support**

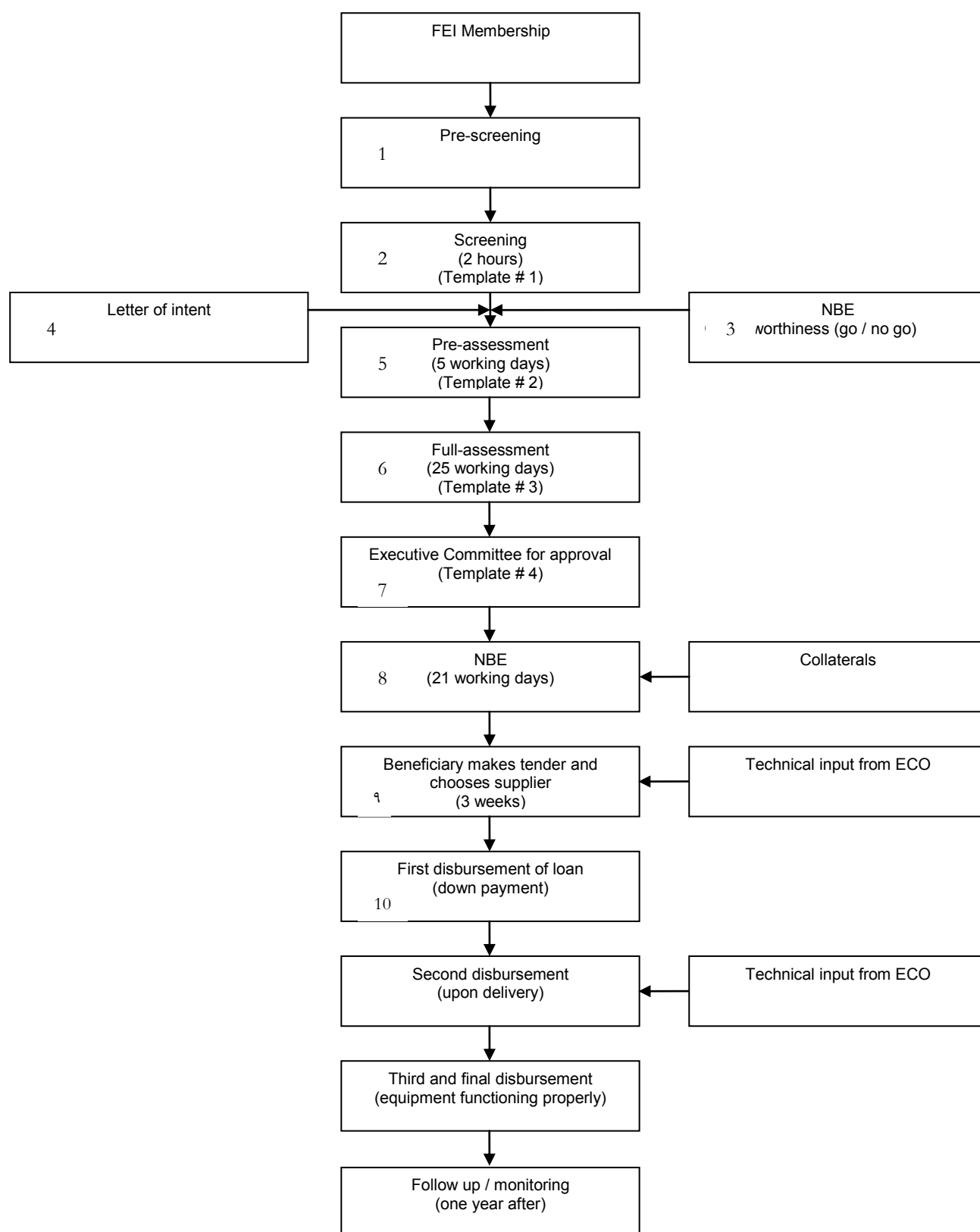
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An agreement was signed by EEAA, FEI and the National Bank of Egypt (NBE), to implement CP in the industrial sector to support initiatives against pollution and encourage environmental compliance through providing soft loans reach up to EGP 3 million per enterprise carrying a 2.5% interest rate per year.

Loans are repaid over 5 years and funds are reused for financing new Cleaner Production initiatives in other enterprises.

## ● Funding Procedures:





**Figure 1 : Detailed procedures for ECO loan**

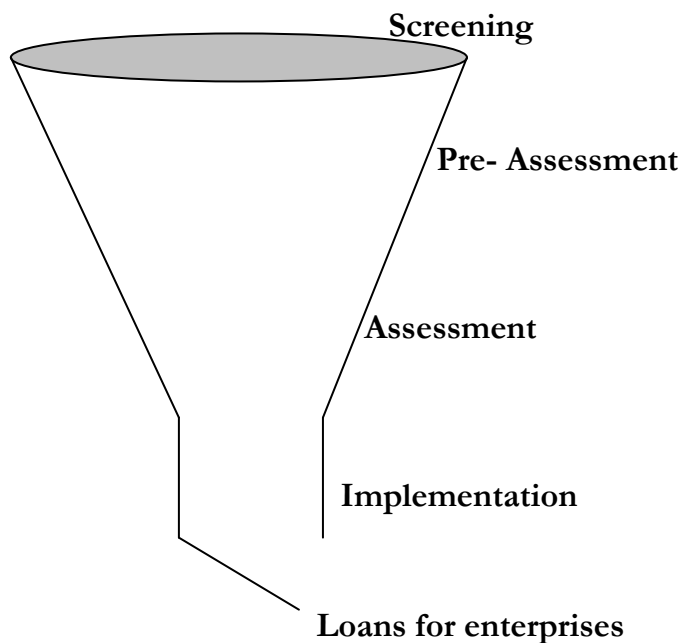


To be eligible for loans from the revolving fund an enterprise must be a member of FEI.

Prior to ECO's recommendation for providing loans to SMEs the following steps and actions are taken:

1. **"Pre-screening"** comprises all the steps from the first contact between ECO and the enterprise (kick-off workshop, tel. call, fax, visit etc.) till an agreement is made between the parties, including consulting fees etc.
2. Step 2 is ECO's actual **"Screening"** of the enterprise. This typically takes a couple of hours (ref. Template # 1).
3. In step 3 ECO requests NBE to judge the creditworthiness (go/no go) of the enterprise and report back to ECO.
4. A Letter of Intent for cooperation is then signed by FEI/ECO and the enterprise.
5. The first stage is the **"Pre-assessment"** of the workshop of the enterprise. This is supervised by an ECO coordinator often assisted by an ETC (Egyptian Technical Consultant). The process takes approx. 5 days. A report is prepared and presented to the enterprise for approval (ref. Template # 2).
6. Once the report is approved by the enterprise, ECO proceeds to the **"Full assessment"**, again often assisted by ETC. The full assessment is the most time-consuming and takes about 25 working days. A detailed report is made (ref. Template # 3). At this stage on-the-job-training of management, staff and/or workers is offered (optional) as a separate package.
7. When the enterprise has approved the full assessment report, ECO determines and recommends the size of the loan to be given and presents the project application to the **Executive Committee** (ref. Template # 4).
8. The approved application is forwarded to the **NBE** for further action.
9. All enterprises receiving loans for equipment must follow the normal purchasing procedures for equipment to be acquired, i.e. by **tender** and tender can only be for new equipment.
10. The supplier of equipment is selected (with the assistance of ECO) and NBE then proceeds with the actual loan **disbursement** (formalities) divided into three portions: Down-payment on receiving the equipment, after installation and commissioning.

## Enterprises



## Code of Conduct

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### 1. Conflict of Interest

"We will avoid any conflict - real or potential - between our personal interests and the interests of ECO. We will promptly report any occurrence of such conflict."

### 2. Abuse of official position and public resources

"We will not seek to influence for private purposes any person or body by using our official position or offering them personal advantages"

### 3. Respect for legislation

"We respect the laws of the countries in which we work"

### 4. Proper personal conduct

"We will ensure that our private conduct does not compromise our role as ECO employees."

### 5. Active and passive bribery

"We will not give, solicit or receive directly or indirectly any gift or other favour that may influence the exercise of our function, performance of duty or judgment".

### 6. Anti-corruption

"We are obliged to report to our superior any suspicion or evidence of corruption committed by colleagues or others."

### 7. Openness and transparency as a rule & confidentiality when required

"We will strive to achieve maximum openness and transparency towards our external constituencies. However, confidentiality will be applied when necessary to safeguard the rights of our partners, staff and others."

#### **8. Non-discrimination**

"In our work we do not discriminate in respect of gender, colour, religion, culture, education, social status, ethnic belonging or national origin or any other status."

#### **9. Dissemination of the Code**

"We will make our Code of Conduct known to our professional partners."

#### **10. Observance of the Code**

"We will respect the principles of the Code and will report any evidence or suspicion of breaches to the Code."

### **ECO Team**

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Our team of specialists on CP, EMS and EE are:

**Eng. Ahmed Kamal A. Moniem**, B.Sc, MBA, Executive Director.

**Dr. Sherif Hamdy A. Daiem**, M.Sc, Ph.D, Senior Coordinator for the Textile Industry.

**Dr. Emad Mohamed Aly**, M.Sc, Ph.D, Senior Coordinator for the Food Industry.

**Eng. Wafaa Ismail Mohamed**, M.Sc, Energy Efficiency Senior Coordinator.

**Eng. Adel Taha**, MSc. Senior Coordinator in the Chemical Industry.

**Eng. Sara Mohamed**, BSc. Industrial Sector Engineer.

**Eng. Noha Zenhom**, MSc. Industrial sector Engineer.

**Eng. Hassan Abo Elata**, BSc. Industrial sector Engineer.

## Credentials

The references presented in the following were achieved through strong commitment and close co-operation between our clients and partners and the ECO team. This section presents our references by sector.

### ECO Clients

Projects reference List (examples)

#### Food Sector



**After**



**Before**

<b>Project</b>	Replacing manual packing by an environmentally-friendly automatic packing machine
<b>Client</b>	Obour Land, Obour City
<b>Description</b>	<p>The study stressed the necessity of shifting to an automatic packaging system using modern environmentally-friendly technologies (Tetrapak machine). It also showed that if the company continued to use the present packing system (particularly manual packaging) for packaging cheese (small volumes ranging between 250 and 500 grams) environmental problems would arise due to increased waste in the final product, continued high energy and water consumption and long working hours. Additionally, the manual system did not guarantee that the final product would meet safety and quality requirements, and this would have a bearing on the market demand for the goods and lead to a loss of profit.</p> <p>It was found that the introduction of automatic packaging would cost around EGP 3 million, of which ECO would contribute EGP 1,7 million, the balance to be paid by the company.</p>

## Chemical Sector



**Before**



**After**

**Project** Replacing the existing system with a more advanced extraction and collecting system for acid vapours in the tank formation area.

**Client** Chloride Egypt, Greater Cairo

**Description** The study stressed the necessity of replacing the present system with a more sophisticated extraction and collecting system for acid vapours in the tank formation area using modern, environmentally-friendly technologies. It showed furthermore that if the company continued to use the inefficient extraction system, environmental problems would arise because of the increased waste in sulphuric acid due to spilling which in turn leads to polluted wastewater and corroded infrastructure. In addition, the rising acid vapours in the working area has a major impact on the working environment and thus on the health and safety of the workers. On top of that the old system led to increased waste in the final product (charged grids), energy and water consumption and long working hours. Finally, the present system did not guarantee that the final product would meet safety and quality requirements, and this would have a bearing on the market demand for the goods and lead to a loss of profit.

It was found that the introduction of a new system would cost around EGP 1.050.000 of which ECO would contribute EGP 840.000, the balance to be paid by the company.

## Metallurgical Sector



**Before**



**After**

### Project

Switch from a cupola coke furnace to a rotary furnace for a two year period and then a switch to natural gas.

### Client Description

Industrial Development Works (I.D.W) Co, Zagazig City

- The study stressed the necessity of switching the cupola coke furnace to a rotary furnace to be replaced later by natural gas. This option would yield environmental benefits in addition to economic advantages. The main target would be to eliminate coke emissions, especially sulphur and carbon dioxide, and reduce total emissions, including oil emissions, to improve the working environment and achieve compliance with Egyptian environmental law.

- Avoiding accidents, improving the quality of the molten product, reducing the maintenance rate, and improving melting efficiency were also factors taken into account. The new system uses modern technology and reduces waste emissions represented in solid particulates.

The option would also result in lower operational costs due to the use of natural gas instead of the more expensive and environmentally-unfriendly coke.

- The introduction of the option would cost around EGP 1,260,200 of which ECO would contribute EGP 882,140, the balance to be paid by the company.

## Textile Sector



**Before**



**After**

<b>Project</b>	Insulation of steam pipes and fuel switch to natural gas instead of Mazout (heavy oil)
<b>Client</b>	Union Company, 6th October Nasr City
<b>Description</b>	<p>Based on the outcome of the assessment study and the data collected, the following opportunities were evaluated for implementation:-Insulation of steam pipes and fuel switch to natural gas instead of Mazzout. The study showed that if the company continued to use the present heating system in the boiler areas, environmental problems would arise due to increased air emissions, and energy and water consumption. Additionally, the present system does not guarantee that the work place will meet safety and health requirements, which would have negative effects on the efficiency of the production processes and lead to loss of profit.</p> <p>It was found that following these recommendations would cost around EGP 95000. ECO would contribute EGP 82.000, and the balance would be paid by the company.</p>



## Energy Sector



**Before**



**After**

**Project** Install new alloy melting and grid moulding unit working on LPG rather than electricity

**Client Description** Chlorid –Egypt, Cairo – Alexandria Desert Road  
The pre-assessment study stressed the necessity of switching from electricity to liquefied petroleum gas (LPG) in the lead-antimony furnace in the grid casting machine. This would increase productivity and profitability, introduce the CP principle and ensure compliance with environmental legislation.

The main object would be to:

- Decrease the consumption of electricity used caused by heat losses and pollution of the heaters by molten alloy.
- Avoid the emission of lead oxide produced from uncovered melting pots, which affects the working environment and thus the health of the workers in the area.
- Achieve compliance with Egyptian environmental law.
- Avoid maintenance costs caused by inefficient casting.
- Improve the quality of the molten product and melting efficiency.
- Decrease the costs of medical treatment, also a factor to be considered.

The option uses modern technology which reduces the cost of recasting and grid waste, and is a closed system which prevents emissions of lead oxide to the working environment. The introduction of this option would cost around EGP 648.600. ECO would contribute about EGP 450,000, while the



balance would be paid by the company.

## Energy Efficiency Projects



### **Chemical Sector**

**Two furnaces to be equipped with recuperators to recover waste heat**  
**Total investment: L.E. 375,000**



### **Metallurgy Sector**

Two furnaces to be equipped with generative heat exchangers to recover waste heat  
Investment: L.E. 175,000 each



### **Metallurgy Sector**

Replacement of 40 low-efficient solar-operated burners by regenerative ones  
Total investment: L.E. 380,000



### **Metallurgy Sector**

Improvement of combustion efficiency in galvanization furnace by burner replacement  
Total investment: L.E. 220,000



#### Miscellaneous Sectors

Reparation of deteriorating insulation, leaking pipes and valves, and faulty traps.

*Total investment: low/no-cost*



#### Textile Sector

Boiler fuel switch from Mazout to Natural Gas

*Total investment: L.E. 200,000*

#### Metallurgy Sector

Replacement of Cupola furnaces (coal) by a rotary kiln furnace (Solar then Natural Gas)

*Total investment: L.E. 1.3 million*



#### Food Sector

Installation of capacitors to improve power factor

*Total investment: L.E. 450,000*