

## Process Improvements and Fuel Switching Project

### Decrease in Energy Cost by 63.9%

In October 2004, a large Sofia bakery approached EnCon Services for assistance with an energy efficiency project under the European Bank for Reconstruction and Development (EBRD) supported Bulgarian Energy Efficiency and Renewable Energy Credit Line (BEERECL). EBRD has recently initiated a similar credit line to continue and expand implementation of industrial energy efficiency projects - **European Union/EBRD Energy Efficiency Finance Facility (EU/EBRD EEFF)**. Loans are being provided by the partner banks *UniCredit Bulbank* and the *United Bulgarian Bank*. Technical assistance is provided free of charge by EnCon Services.

#### APPROACH

An energy audit was completed of the company's bread-making plant outside of Sofia. The audit identified that the high electricity consumption in the plant, and the high electricity costs respectively, were due to old, energy intense process equipment. New equipment was specified and a project business plan was written. In December 2004, the company was successful in securing a loan to implement a process improvement and energy efficiency project.

#### PROBLEM IDENTIFICATION

The EnCon Services audit confirmed that:

- The bread-making ovens consumed 97.8% of the total electricity
- Monthly electricity consumption and therefore cost were relatively constant, i.e., EUR 9,696/month in 2004
- The existing process line equipment was dated and inefficient, i.e., had higher electricity consumption and lower production capacity than state-of-the-art machinery

#### ENERGY EFFICIENCY IMPROVEMENTS

EnCon recommended the following:

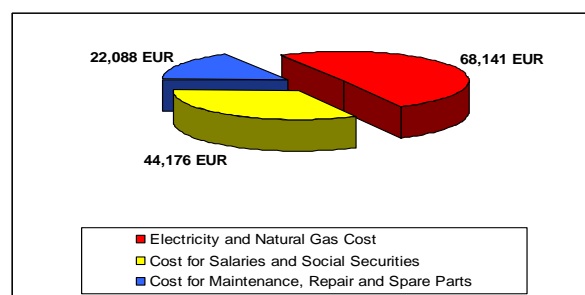
- Replacement of the old, energy intense machines and facilities with new automatic facilities
- Switch from electricity to natural gas
- Automation to decrease baking time
- Full capacity use of the new furnace and auxiliary facilities to minimize repair and maintenance costs

Old Electric Furnace for Baking Bread



#### ENERGY AND OPERATIONAL COST SAVINGS

The installation and operation of the new process line improved the production process, increased efficiency, improved quality of the bread products and reduced the operating and repair costs. Electricity consumption was reduced, but natural gas was consumed. The net effect was an annual energy savings of EUR 68,141 (at 2004 prices). Only 8 workers are needed to operate the new, automated production line, thereby reducing the annual costs for salaries and benefits by EUR 44,176. The new process line also reduced the costs for repair, maintenance and spare parts by EUR 22,088 per year.



#### CO<sub>2</sub> EMISSIONS REDUCTION

CO<sub>2</sub> emissions will be reduced as a result of the annual electric energy savings and increased by the use of natural gas. The net result is a reduction of emissions by 13,981 tons of CO<sub>2</sub> from 2005 through 2012.

## *Loan Facility Available for Industrial Energy Efficiency Projects From the New European Union/EBRD Energy Efficiency Finance Facility (EU/EBRD EEFF)*



With the launch of the European Union/European Bank for Reconstruction and Development's Energy Efficiency Finance Facility, loans are available, up to EUR 2.5 million, to private industrial companies to implement energy efficiency projects. Free technical assistance and incentive payments are also available. The Incentive Payment is calculated as 15 percent of the lower of:

- The total principal amount of the loan drawn down by the borrower
- The total investment cost of the project exclusive of VAT

The Incentive Grant is payable directly to the borrower after the completed project is verified by an independent energy expert. Projects can be "stand alone" or this fund can be used as a part of a larger corporate investment.

### **What Type Of Industrial Energy Efficiency (EE) Projects Qualify For EU/EEFF Loans:**

- On-site co-generation of heat and electricity
- Rehabilitation and/or replacement of old boilers
- Rehabilitation of steam distribution systems, steam traps, etc.
- Rehabilitation of compressed air and power distribution systems
- Heat and steam recovery
- Installation of absorption chillers
- Installation of variable speed drives
- Process optimization, enhanced controls and automation systems
- Upgrade/replacement of utilities
- Fuel switching
- Implementation of energy management systems or building management systems

**How Large Can An IEE Project Loan Be?** The investment cost of an eligible investment is limited to EUR 2.5 million. Each Participating Bank will evaluate your creditworthiness and make a decision on your borrowing capacity.



## **ENERGY EFFICIENCY IS A SMART MOVE**

**Why Should I Take A EU/EEFF Loan?** With the project savings, investments pay for themselves quickly. The following benefits can be realized:

- Reduced production costs
- Improved competitiveness and profitability
- Established credit history

### **Technical Assistance Is Available And It Is ABSOLUTELY FREE. EnCon Services provides:**

- Determination of project eligibility and, if applicable, help to restructure the project to meet eligibility requirements
- An energy audit and project cash flow analysis
- Assessment of the project's technical and financial viability
- Preparation of Rational Energy Utilization Plan (REUP)
- Assistance with loan applications

### **Why Wait? Reduce Your Cost of Energy and Earn Incentive "Cash-In-Your-Pocket" Now!**

Companies wishing to implement energy efficiency measures are invited to apply for financing by contacting one of the two participating banks under the program:



Or by contacting EBRD's technical support in Sofia – DAI/EnCon Services – for a consultation.

### **COME AND SEE US OR CALL US NOW FOR FREE TECHNICAL ASSISTANCE:**

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