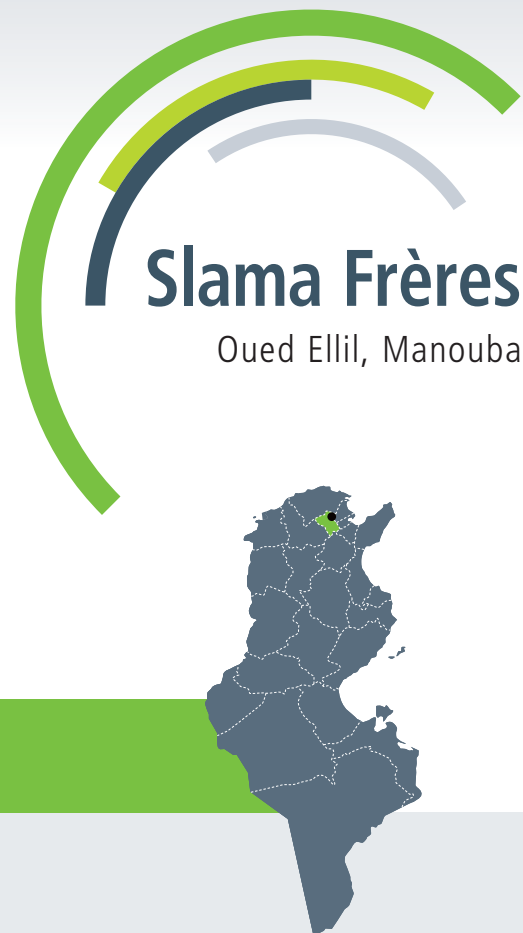


The Tunisian Cleaner Production Project (TCPP) is an initiative based on an approach laid by the United Nations Industrial Development Organization (UNIDO) with technical and financial support from Switzerland. The TCPP is co-financed by Switzerland's State Secretariat for Economic Affairs (SECO) and Tunis International Center for Environmental Technologies (CITET). CITET is in charge of its implementation with help from the Swiss environmental consulting firm, SOFIES.

With a budget of approximately 2.5 million €, the project is set to last 5 years (2010-2015). The TCPP's objective is to build national capacities in terms of environmental engineering tools, methods and technologies while strengthening the competitiveness of Tunisian companies.



Case Study

Agri-food Sector

Company Overview

Slama Frères (Nejma huile) is a leading Tunisian producer of refined vegetable oil and household soap that employs approximately 320 employees and reports annual revenues of 33 million €.

The company was nationally recognized with the "Social Progress Prize" in 1991 and has since undertaken several environmental initiatives, including a study on the depollution of the wastewater treatment plant, as well as the implementation of environmental and quality management systems.

Slama Frères is part of a group of 20 enterprises that has integrated the first phase of the Project in order to improve environmental performance and productivity.



Source : M. Fritsch - emac

Benefits : environment, competitiveness and capacity building

The priorities identified include reusing bleaching earths in cement processing, awareness and better practices training program and improving the recovery of condensate water in order to resupply boilers.

This last action alone would reduce the company's water consumption by over 53,000 m³ per year and consequently reduce the volume of liquid waste. Savings on the water and energy bills are estimated at more than 85,000 € per year with an initial investment of 100,000 € thus resulting in a payback period of about 1-2 years.

Together, these measures can substantially improve the way in which the company monitors its consumption and handles its waste while instilling in workers a certain environmental sensitivity. As such, the company will not only decrease its costs, but also its environmental impact while improving its competitiveness and image.

Saving opportunities and environmental impacts

	Action	Savings (€/year)	Investment (€)	Payback Period	Resource savings and environmental impacts
1	Best practices training	To be determined	To be determined	Immediate	Possibility of immediate savings of about 5% in the consumption of raw materials, energy and water.
2	Improved recovery of condensate water from the steam system	85,643	100,000	1.2 years	Reduction in the consumption of water, gas and chemicals for water treatment. Reduction in effluents. More effective treatment plant with more homogenous water containing less fat.
3	Valorization of bleaching earths	To be determined	To be determined	To be determined	Better waste management: valorization rather than dumping. Reduction in fuel consumption and traditional raw materials in cement production.

Action 1

The purpose of this measure is to improve the company's consumption patterns by providing better employee training and increasing overall company communication. Whether it is horizontal (worker to worker) or vertical (worker to management), the company can greatly benefit from more dialogue focused on preventative maintenance and optimal recycling procedures. This simple measure has the potential to bring about 5% savings on energy, resource and raw material consumption while decreasing safety and environmental risks.

Action 2

Currently, a little over 30% of condensates are reused while the oil-containing remainder is dumped toward the state-owned sanitation station. The idea here is to install 2 oil separation tanks, an insulated degasser and a heat exchanger in order to be able to maintain the condensates at high pressure and temperature levels before re-injecting them into the boiler and saving a maximum amount of energy. This measure could lead to drastic decreases in water and gas consumption while decreasing effluents.

Action 3

In 2011, the company used and dumped over 1,084 tons of bleaching earths containing 40% vegetable oil and 5% nickel, due to the lack of adequate infrastructure for the deposit of such waste. Co-processing -the use of waste in industrial processes- is an appropriate solution in this situation. The recovery of waste as an alternative fuel in a cement plant leads to a better management of hazardous waste by Slama Frères and fuel savings for the cement plant. Even though the transportation of this waste is an added cost for the company, this measure can substantially improve its waste management practices and green image.