



Environmental performance indicators case study

• Evaluation and follow-up of the Ecomapping actions

Madaen Industrial Co. Ltd., soap industry, Jordan

The company and its motivations

Madaen Industrial Co. Ltd. (MIC, 80 employees) is an ISO 9002 certified company producing toilet and laundry natural soap noodles and bars through a continuous fatty acid saponification process. MIC has an annual capacity of 15'000 tonnes of soap noodles and 7'500 tonnes of soap bars. The company wants to expand to West Europe and North America markets. In this respect, mitigating the environmental impacts of its activities represents a guarantee of quality for its targeted potential clients. MIC used Ecomapping to carry out an environmental review and would like to complete this approach with a quantitative evaluation of its environmental impacts and environmental actions.

Selection of Indicators

With the help of Ecomapping, Madaen identified three main environmental aspects:

- Energy consumption
- Water consumption
- Noise exposure

The management would like to evaluate and follow each environmental aspect through the development of environmental performance indicators. The company selected, therefore, three indicators:

- Energy consumption per total production (kWh/tonne)
- Water consumption per total production (l/tonne)
- Noise level (dB)

• Environmental performance indicators

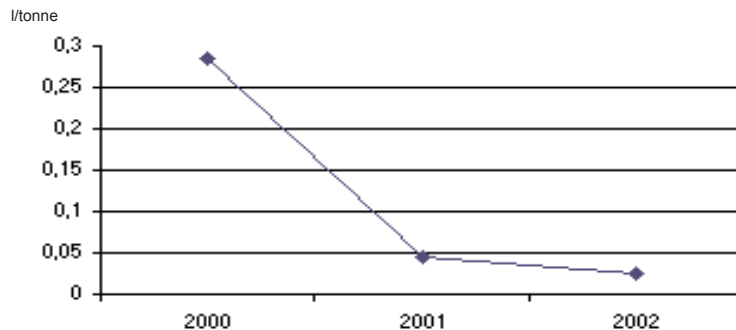


Fig 1: Water consumption per total production (l/tonne)

Comments:

Through specific water-saving actions, Madaen succeeded in reducing its water consumption by 90 % in 2 years. The annual saving due to the installation of the heat exchanger and closing the loop of the water system is 690 US\$ for an initial investment of 360 US\$.

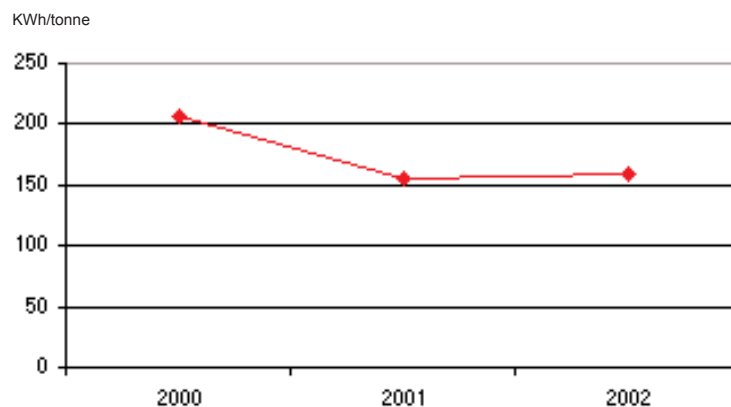


Fig 2: Energy consumption (KWh/tonne)

Comments:

The energy consumption was identified as one of the major environmental aspects of Madaen. The management decided to initiate an electricity-saving plan with the commitment of its employees. By rescheduling the working hours of the machines during the peak hours, planning a lighting schedule and adapting the light, they succeeded in reducing the energy consumption by 23%.

• Interpretation and corrective measures

Indicators	Interpretation	Action	Payback
Energy	To develop and follow the energy-saving plan.	To reschedule the working hours of the machines during the peak hours.	23% reduction of energy consumption. Annual saving 9'600 USD.
Water	To evaluate the water consumption and to highlight the results of the water-saving actions.	To install a heat exchanger and redirect water into the process.	Reduction of the water consumption per output by 90 % in two years.
Noise level	Improvement of the occupational health and safety. Improvement of the working conditions.	To remove the air blower outside the building.	Investment 500 USD Annual savings 180 USD.

• Communication

The Environmental Performance Indicators have been used internally as well as externally to communicate the environmental performance of the company. By communicating internally its environmental actions, the management obtained employees' commitment. It established as well a rewarding price. Externally, the Environmental Performance Indicators were used vis-à-vis the customers to guarantee the efforts made to minimise environmental impacts and to improve continuously the performances and, therefore, the quality of products.

• Monitoring

The Environmental Performance Indicators are useful for the management to evaluate the results of their environmental actions or investment. Thus, Madaen follows continuously the water and electricity savings as well as the noise level. The performance indicators also enable Madaen to better understand the implication of the environment in its financial performances.

• For further information

• WHO IS SBA ?

SBA, Sustainable Business Associates, is an international non-governmental organisation (NGO) working to engage industrialist in 'eco-efficiency' with the aim of minimising environmental impact and improving business productivity. To pursue this aim SBA has initiated the DELTA Programme to sensitise industrialists to new business risks and opportunities, and to provide them with the management tools and training to move towards sustainable development.

• WHERE ARE THE DELTA NETWORKS ?

The DELTA Networks are operating in: Algeria, Egypt, Jordan, Lebanon, Libya, Mauritania, Morocco, Palestine, Syria, Tunisia and Turkey.

• SUPPORT TO DELTA



• WHAT IS DELTA ?

DELTA stands for **D**eveloping **E**nvironmental **L**eadership **T**owards **A**ction. Chapter 30 of Agenda 21 (an outcome of the 1992 United Nations 'Earth Summit') indicates that business & industry have a critical role to play in achieving sustainable development goals. After an initial awareness-raising phase, the DELTA Programme focused on structuring industrialists in 'business & environment' networks (DELTA Networks) in 11 countries of the Mashrek & Maghreb. These Networks are composed of key industrialists interested in taking a proactive role and leadership on environmental issues.

The DELTA Networks are practical, working structures for industrialists to obtain information & contacts, exchange experiences, develop environmental know-how, and gain access to practical management tools that can offer 'win-win' options based on ecoefficiency.

• SBA

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The Environmental Performance Information Board, developed by SBA in collaboration with ABCD-Durable, completes the other eco-management tools developed within the framework of the DELTA Programme. It is based on the data collected, it enables companies to measure environmental impacts and to build performance indicators. Its 'monitoring' dimension acts as a thread in the implementation of an Environmental Management System (EMS).