



## Promoting Cleaner Production in the Industrial Sector



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Twenty countries from three different continents surround the waters of the Mediterranean Sea. Their population has doubled in the last forty years, consisting at present of more than 450 million people, and is expected to reach 600 million in the next fifty years. One third of the population, around 150 million people, is concentrated along the narrow coastal areas making up some forty-six thousand kilometres of coastline which, in addition, host most of the 200 million tourists arriving in the Mediterranean each year.

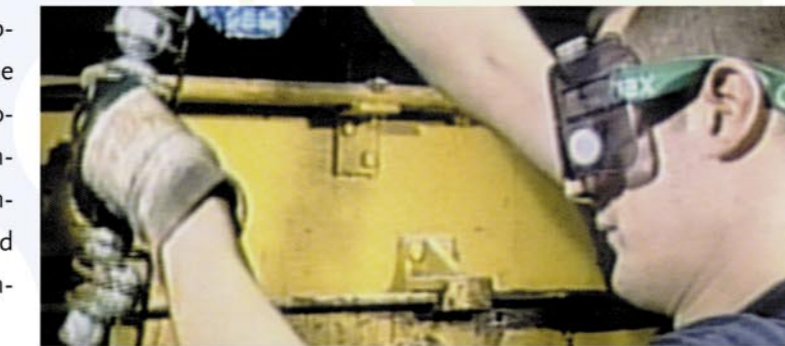
#### ISSUES AT STAKE:

##### INDUSTRIAL PRESSURE ON THE MEDITERRANEAN

Along with population pressure generating huge amounts of domestic waste, there is intense industrial activity from the basin's northern countries and growing industry in the southern and eastern countries, which together with the arrival of the Euro-Mediterranean free trade area, will result in a level of industrial development and associated pollution that cannot be absorbed without an enormous impact by a semi-enclosed sea whose waters need 80 years for complete renewal.

Given that the conditions of the physical setting are unchangeable, one of the main activities that can be carried out in order to halt the degradation of the natural environment and promote sustainable economic development in the region is the minimisation of the environmental impact of economic activities, and especially those of an industrial nature; this must be done in an integrated, multi-disciplinary manner.

In the case of industrial activity, which represents 33 % of the economic activity in the region and is the second most important economic sector after tourism, progress inevitably must provide for a combination of environmental considerations and social and economic factors, leading to overall improvement.



#### CP/RAC: A TOOL FOR ENVIRONMENTAL INTEGRATION WITHIN BUSINESS MANAGEMENT

The Mediterranean Action Plan (MAP) views cleaner production as a priority strategy in ensuring that economic sectors incorporate environmental variables into management processes through the application of more ecologically sound techniques.

In 1996 the Cleaner Production Regional Activity Centre (CP/RAC) was created within the MAP framework in order to provide technical support for Contracting Parties and institutions and, through them, to businesses in the region.

Primarily focussed on the industrial sector, the activities of CP/RAC are aimed at informing about opportunities and promoting techniques, allowing for at-source prevention of pollution generated by industrial activity in the Mediterranean, with the understanding that environmental excellence is also the path towards economic profitability. CP/RAC activities include consultation, education, the transfer and exchange of information regarding cleaner production techniques, capacity building, and participation in cooperation projects.

#### THE RESPONSE:

##### RECONCILING THE ENVIRONMENT AND ECONOMIC DEVELOPMENT

In response to unsustainable systems of production, distanced as they are from the priorities of environmental prevention, options like cleaner production, eco-efficiency and waste reduction are some of the business and environmental strategies proposing the adoption of new management systems allowing for the optimisation of processes. This would lead to the attainment of increased production, generating economic benefits through savings while improving the corporate image of the enterprises in question.

These strategies, which not only affect processes but also cover products and services, present unexpected opportunities for business efficiency with regard to use of resources, allowing for the adjustment to a market increasingly sensitive to the concerns of environmental protection.

Pollution prevention involves practical solutions increasing the efficiency of business and reducing the risks to health and the environment associated with its operations, achieved through technical and economic feasibility studies of the detected prevention opportunities, thus ensuring their profitability.



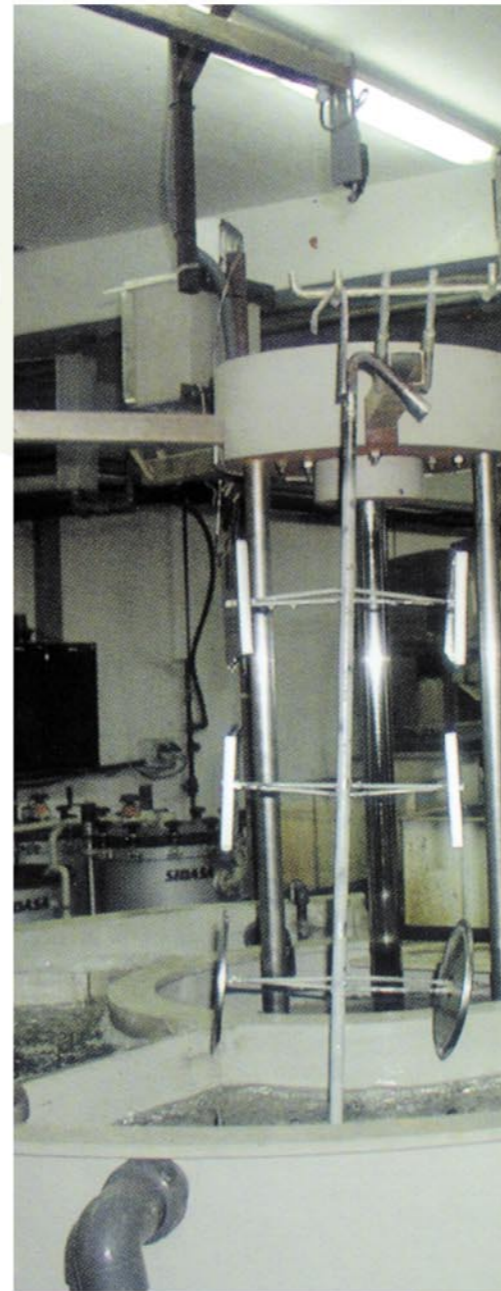
#### WHERE TO START FROM?

##### THE MOED

Assessing an industrial activity is the prior and necessary condition for the identification of opportunities for improvement and optimisation.

The MOED (Minimisation Opportunities Environmental Diagnosis) is a methodology developed by CP/RAC to help enterprises detect possible opportunities for preventing and reducing pollution at source, as well as obtaining sufficient data to orient their policies towards cleaner practices and techniques, which at the same time are technically and economically feasible.

Through this methodology, 300 MOEDs have been carried out in Catalonia (Spain), making for an average decrease in pollution that may be broken down as follows: over 30 % reduction in wastewater, 24 % reduction in waste, as well as savings of 26 % in water and 14 % in raw materials.



#### AN EXAMPLE ON HOW ENVIRONMENTAL INTEGRATION IN PRODUCTIVE PROCESSES CAN RESULT IN IMPROVEMENT IN BUSINESS PRODUCTIVITY

A Spanish company manufacturing mayonnaise generated a high volume of wastewater and waste by cleaning the pipes, which implied high treatment costs.

After carrying out a MOED, the process of pipe cleaning was changed by modifying the pipes through which the mayonnaise circulated.

The diameter of all pipes was made equal and the curve radius modified, thus allowing a silicon ball driven by compressed air to pass through the pipes so as to recover the accumulated product.

With this change, 5 t/year of mayonnaise is now recovered and packaged. The remaining liquid waste from cleaning (15 t/year) is recovered as cattle feed, meaning a 20-t/year reduction in waste. Furthermore, there are water and detergents savings from cleaning the pipes, with the resultant reduction of wastewater.

Payback period: 3 months.

#### FUTURE ACTIVITY ORIENTATIONS

Recently, the Industrial and Sustainable Development working group of the Mediterranean Commission on Sustainable Development (MCSDD), set the following main proposals for action to stimulate sustainable development:

- > Increasing and strengthening institutions and organisations dedicated to the promotion of sustainable development in enterprises.
- > Introducing standards of sustainability in business.
- > Promoting knowledge transfer (transfer of technologies, capacity building, and so forth).
- > Reinforcing the mechanisms for controlling and monitoring industrial sustainability.



For further information, a detailed publication on  
Promoting Cleaner Production in Industrial Sector is available at CP/RAC.



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