

Mediteranean

Clean Propre Limpio



Regional Activity Centre
for Cleaner Production



Generalitat de Catalunya
Government of Catalonia
Department of the Environment
and Housing

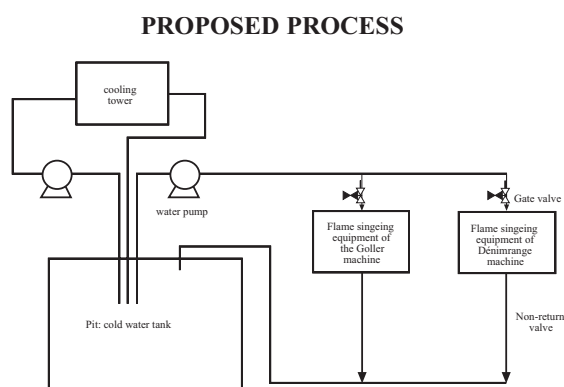
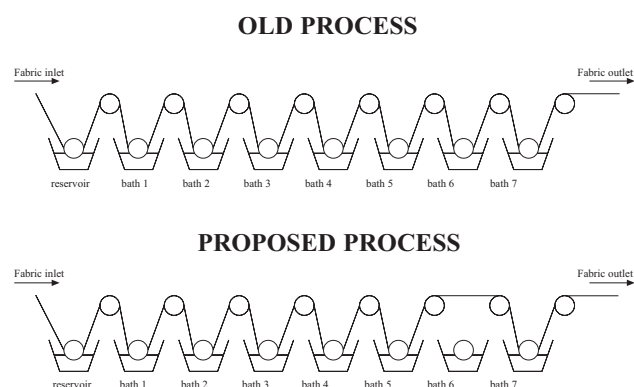
No. 10

Pollution prevention case studies

Cleaner production programme in a textile industry

Company	Société Industrielle de Textile - SITEX (Tunisia).
Industrial Sector	Textile industry. Production of Denim - Indigo fabrics.
Environmental considerations	Aware of the importance of Cleaner Production as a preventive measure for the protection of the environment, the CITET, the National Focal Point of the RAC/CP in Tunisia, carried out a pilot project on methods of rationalisation of production, optimisation of procedures and minimisation of waste with the aim of cutting back production costs, reducing the impact of the industrial activity on the environment and strengthening the competitiveness of the company. This project affected several industrial sectors including the textile industry, represented by the company SITEX.
Background	<p>The objectives sought by the cleaner production programme of SITEX were:</p> <ol style="list-style-type: none"> 1. To reduce water consumption at the fabric finishing stage. 2. To reduce the impact of the fabric dyeing process on the environment.
Summary of actions	<p>Three cleaner production options were identified:</p> <ol style="list-style-type: none"> 1. To reduce the consumption of water at the level of the rinsing procedure through the elimination of the basin and of rinsing bath no. 5 (diagram 1). Saving of 6 m³/h of softened water. This reduction was only possible after bringing the flow of rinsing water under control. 2. Recovery of the cooling water from the flame singeing of the Goller machine toward the Frigotol cooling basin (diagram 2). Saving of 3.3 m³/h of softened water. 3. Recovery of the cooling water from the flame singeing of the Dénimrange toward the Frigotol cooling basin. Saving of 4 m³/h of softened water.

Diagrams



Balances

	Option 1	Option 2	Option 3	Project
Reduction of the volume of wastewater	18,000 m ³ /y	10,000 m ³ /y	12,000 m	
Annual saving	29,000 USD/y	16,000 USD/y	19,000 USD/y	64,000 USD/y
Saving in consumption of power	843,000 th/y			
Annual saving	13,000 USD/y			13,000 USD/y
Saving in Chemicals for the treatment	32,8 t/y	18 t/y	22 t/yr	
Annual saving	11,000 USD/y	6,000 USD/y	7,000 USD/y	24,000 USD/y
Saving in machinery pieces				
Annual saving	9,000 USD/y			9,000 USD/y
Total annual savings	62,000 USD/y	22,000 USD/y	26,000 USD/y	110,000 USD/y
Investment	1,000 USD	2,000 USD	2,000 USD	5,000 USD
Payback period	Immediate	1 month	1 month	17 days

Conclusions

The options proposed allow considerable savings to be achieved in relation to consumption of water, power and chemical products used for wastewater treatment. At the same time, these minimisation options require a relatively low investment cost for which the recovery of the investment is immediate.

NOTE: This case study seeks only to illustrate a pollution prevention example and should not be taken as a general recommendation.



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