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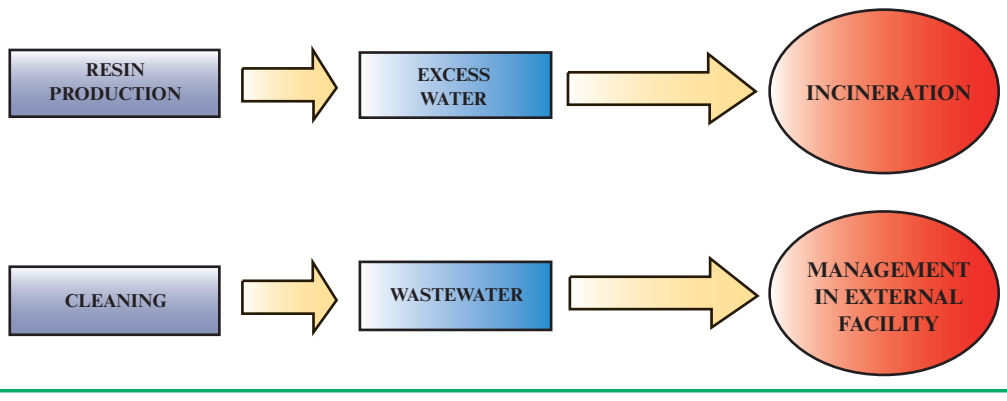
Regional Activity Centre for Cleaner Production

GOBIERNO DE ESPAÑA MINISTERIO DE MEDIO AMBIENTE Y MEDIO RURAL Y MARINO

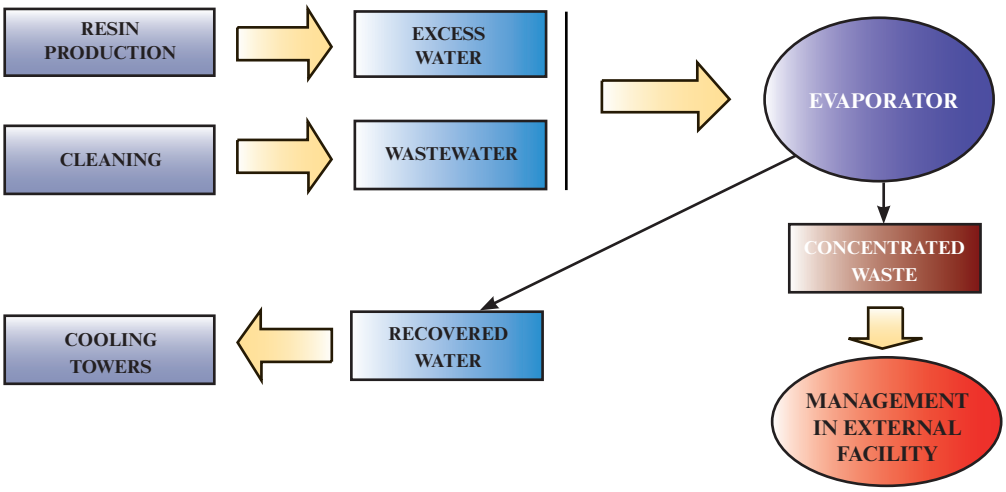
Generalitat de Catalunya Government of Catalonia Ministry of Territory and Sustainability

No. 149 Pollution Prevention Case Studies

Installation of an Evaporator to Reduce Waste Production and Increase Water Recovery

Company	INDUSTRIAS TITAN, S.A.
Industrial sector	Manufacture of paints, varnishes and similar coatings, printing ink and mastics ISIC Rev. 4 no. 2022 (International Standard Industrial Classification of All Economic Activities)
Environmental considerations	Environmental motivation: to reduce the waste produced and water consumed through a water-recovery process. Economic motivation: to reduce the cost of waste management by an external company.
Background	Before the implementation of the new equipment, the excess water from the manufacture of resins was incinerated. This involved, in addition to the cost, emitting CO_2 into the atmosphere. Furthermore, the wastewater resulting from the cleaning of the tools used during the production process was sent to an external waste management company, at a significant cost. In both cases, excess water from the manufacture of resins and cleaning could not be reused. Therefore water consumption was high.
Summary of actions	An evaporator was installed, along with transport pipes to carry wastewater from the cleaning area to the evaporator and excess water from the process tank to the evaporator and from the evaporator to the cooling towers. Now excess water from manufacturing and dirty water from cleaning are recovered and used in the cooling towers. Only the concentrated residue from the evaporator is sent for external treatment.
Diagram	**OLD PROCESS** 

NEW PROCESS



Balances

INVESTMENT	
Evaporator	€220,000
Concentrated waste treatment	€26,000/year
Energy consumption from the evaporator	€64,000/year

SAVINGS	
External wastewater treatment (incineration)	€183,000
Total savings (including added costs)	€93,000/year
In addition (water savings)	576 m^3/year

RETURN ON INVESTMENT
The return-on-investment period is **2 years and 4 months**.

Conclusions

With this project, three main objectives were achieved: to reduce wastewater production, to reduce water consumption and to reduce production costs.

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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