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GRECO INITIATIVE GREEN COMPETITIVENESS

Regional Activity Centre for Cleaner Production

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

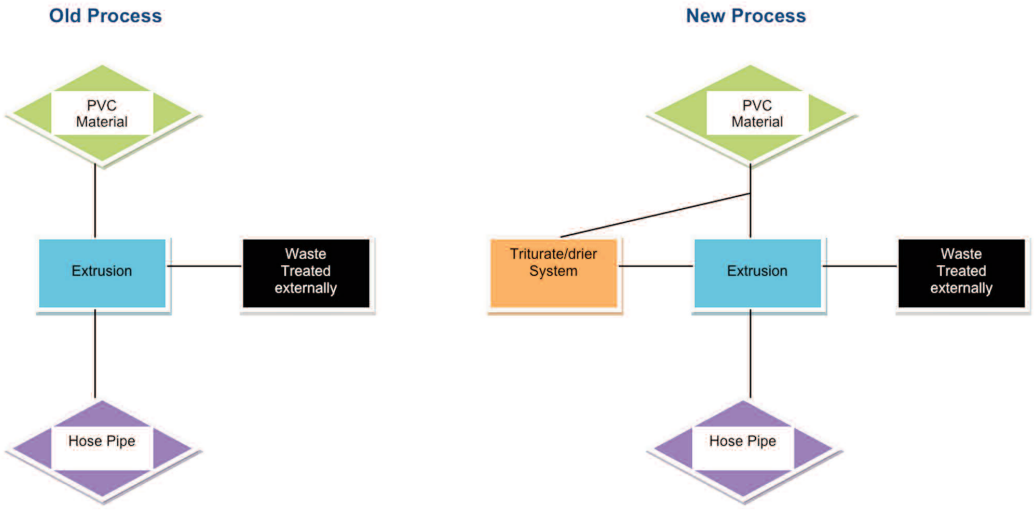
Generalitat de Catalunya
Government of Catalonia
Department of the Environment and Housing

No. 106 Pollution prevention case studies

Re-introduction of waste of PVC as raw material in a production process

Company	CEPEX,S.A.U (Granollers, La Garriga and St. Jaume de LLierca)
Industrial sector	Manufacturer of fittings, valves and flexible hose in plastic materials
Environmental considerations	CEPEX,S.A.U is a company specialized in the manufacturing of fittings, valves and flexible pipes in plastic materials to lead fluids. CEPEX,S.A.U has three different plants in Granollers, La Garriga and St Jaume de Llierca. CEPEX has implemented an Environmental Management System in the center of Granollers based on the standard ISO 14001. At St Jaume de LLierca site PVC flexible hose is made with internal reinforcement and smooth interior and exterior surfaces according to EN ISO 3994 commercialized as Cepexflex. The PVC flexible hose is manufactured by extrusion of two materials flexible Polivinyl Chloride (flex PVC) and unplasticised PVC (PVCU). During the process PVC waste is generated which was not reincorporated to the production process. In order to minimize the environmental impact of the extrusion of PVC equipment was installed to dry, transport and reintroduce PVC waste mixed with raw material.
Background	CEPEX,S.A.U during the process of extrusion generate PVC waste. The PVC waste was not incorporated on the process. This project was addressed to: - To incorporate PVC waste as raw material - To minimize the environmental impact and - To reduce the associated costs to raw materials
Summary of actions	The action made by CEPEX,S.A.U corresponds to the installation of a Dried System in order to dry the triturated material . A gravimetric system used to mix raw material PVC material with triturate PVC. The mixed material is reintroduced in the production process.

Diagram of the installation



Balances	Old Process	New process
Balance of raw materials	Consumption PVC = 2.535.000 Kg PVC waste = 114 tones/annual	Consumption PVC = 2.459.000 kg Consumption PVC origin = 76.000 kg PVC waste = 38 tones/annual
Economic balance	Cost Consumption PVC = 2990409	Cost Consumption PVC = 2900605 Cost Consumption PVC origin = 0
Savings and expenses		Savings of material = 89.804,17
Total savings (€/y)		89.804,17
Investment in installations (€)		Drying System = 11.101 Transport System and Mixer = 15.401 modifications machinery = 4363 Assembly and starting-up conditioning = 7.135
Total investment (€)		38.000
Investment payback		5 months

Conclusions

Conclusions CEPEX,S.A.U has achieved through the incorporation of drying system, transport system and gravimetric system an environmental and economic significant improvement .The origin recycle has permitted the reduction of raw material and the reduction of expenses associated to them.

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