

# Med *Clean* *Propre* *Limpio* *Mediterranean*



No. 78

Pollution prevention case studies

## Cleaner production in the soft drinks industry

### Company

Production of soft drinks in Sinalco started in 2001, under licence from the German producer Sinalco International GmbH & Co., with the exclusive right to distribute the products on the markets of the Republic of Croatia and Republic of Slovenia. Sinalco's basic activity is the production of carbonated soft drinks, non-carbonated soft drinks and energy drinks. In total, the company has 95 employees.

Annual production is 3,000,000 litres of carbonated drinks and 2,500,000 litres of non-carbonated drinks.

**Industrial sector** Food industry, soft drinks production.

### Environmental considerations

A team of experts from the company identified two problems that occurred in the production process: energy consumption and solid waste production. The energy consumption indicators revealed an excessive and irrational consumption that resulted in high costs. The solid waste generated in the process, which largely included the packing material (paper and PVC packages), was sent to landfill, although there was a possibility of recycling.

### Background

Based on the analysis mentioned above, an environmental diagnosis was carried out on both production processes—carbonated and non-carbonated soft drinks—focusing on the improvement in energy efficiency and options for introducing recycling as an alternative to waste disposal at the landfill.

### Summary of actions

The following measures were proposed and then implemented:

Measures for improving energy efficiency:

1. Optimisation of bottle dryer performance with three compressed air nozzles, instead of four.
2. Separation of electrical circuits, to provide lightning only in areas where work is carried out and not in the whole production hall.
3. Regulation of optimum room temperature between 18-20°C, with four fan heaters instead of eight, at times when the production line is working and gives off heat.

### Waste management measures:

1. Separation, collection and transport of cardboard, paper and PVC packaging for recycling.
2. Reuse of cardboard boxes received as a packaging for empty bottles, as a cardboard pad for final product.

### Balance

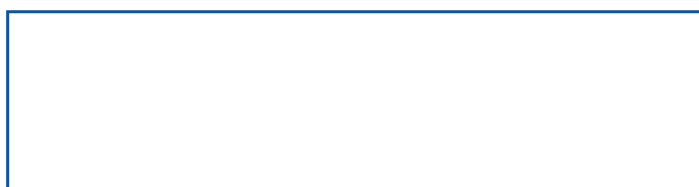
Measures		Energy balance		Investment (€)	Annual savings (€)
		Before	After		
Measures for improving energy efficiency	Optimisation of bottle dryer performance	44,400 kW/g	33,300 kW/g	88	2,209
	Separation of electric circuits				
	Reorganisation of production area heating				
Waste management measures	Collection and recycling of packaging material	Material balance		0	308
		Before	After		
	Reuse of cardboard packages	Approx. 12 t of waste was disposed of at the landfill	Approx. 12 t waste is recycled	154	512
<b>Total savings</b>					€3,029
<b>Total investment</b>					€242
<b>Payback period</b>					<1 month

### Conclusions

By implementing the above-mentioned measures, energy consumption was reduced by 25% and the amount of solid waste transported to the landfill by approx. 12 tons of packaging waste, which preserved the natural resources, saved precious space at the landfill, and achieved economic benefits.

**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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