

# MedClean Propre Limpio



No. 122

## Pollution Prevention Case Studies

### Energy Efficiency

<b>Company</b>	Apli Paper, S.A., Barberà del Vallès (Spain)
<b>Industrial sector</b>	Manufacture of other articles of paper and paperboard. Printing and service activities related to printing. ISIC Rev. 4 no. 1709 and 181 (International Standard Industrial Classification of All Economic Activities)
<b>Environmental considerations</b>	In late 2006, as part of the company's desire to improve its processes and compliance with ISO 14001:2004 and European Regulation EMAS registration, Apli Paper, S.A. decided to start a project to assess its potential for reducing electrical power needs.  In December 2007, the objective of reducing electrical consumption by 10% annually was established. This objective was included in the Integrated Environmental Management Programme of the company.
<b>Background</b>	The goal of the company was to reduce the electricity demand with the consequent cost savings. This action would allow the company to allocate investments to other projects and be more competitive.  The starting point of the project was to set 2006 electrical consumption as the reference value. During this year, a total of 1,404,099 kWh were required by the company to meet production and other auxiliary service needs (such as lighting, compressors, computers, etc.). Company lighting, the area of improvement on which the company focused most, was fully operational 24 hours a day, 5 days a week.
<b>Summary of actions</b>	The actions taken were as follows:  <u>2007</u> <ul style="list-style-type: none"> <li>• Information for and education of the company staff.</li> <li>• Identification of unnecessary lights.</li> <li>• Testing of the lighting and consumption, turning off nine factory lights, always prioritising the need for lighting in order to prevent risks and accidents.</li> <li>• Turning off of lights when not necessary, for example, the picking area and the automatic pallet warehouse.</li> <li>• Minimisation of the use of artificial lighting in areas with natural lighting (skylights).</li> <li>• Replacement of substandard equipment (reactive power condenser of the transformer).</li> <li>• Changing of lights in production and warehouse areas.</li> </ul> <u>2008</u> <ul style="list-style-type: none"> <li>• Control and maintenance of the spotlights needed in the different workplaces.</li> <li>• Turning off of lights in those places where there is no activity during certain shifts.</li> <li>• Continuation of the proper management of lighting and office equipment.</li> <li>• Monitoring of the electricity consumption monthly.</li> </ul>

2009

- Modification of lighting systems in production and warehouse areas, adapting use to working position needs (when not utilised, the lights can be turned off).
- Adaptation of outdoor lighting to real needs, by dismantling unnecessary lights and installing low-energy fluorescent lights along with cells to detect light in areas, where feasible.
- Turning off of the lights in vending machines.

### Balance

Period	2006 consumption	2007 consumption	2008 consumption	2009 consumption	Reduction of consumption	% reduction
January	125,097	123,400	112,011	97,020	28,077	22.4%
February	116,306	112,902	105,475	88,981	27,325	23.5%
March	134,760	121,001	95,333	84,443	50,317	37.3%
April	101,431	98,315	102,973	70,751	30,680	30.2%
May	123,193	112,022	95,321	76,307	46,886	38.1%
June	119,347	114,482	93,507	82,465	36,882	30.9%
July	114,724	122,283	115,642	98,913	15,811	13.8%
August	95,072	75,383	73,931	59,378	35,694	37.5%
September	124,016	96,701	97,236		26,780	21.6%
October	118,141	93,681	106,546		11,595	9.8%
November	122,221	96,841	94,724		27,497	22.5%
December	109,791	83,391	86,767		23,024	21.0%
<b>Total (kWh)</b>	<b>1,404,099</b>	<b>1,250,402</b>	<b>1,179,466</b>	<b>658,258</b>	<b>360,568</b>	<b>25.7%</b>

**Investment:** €4,850

**Cost savings:** €65,731

**Return on investment:** 3 months

### Conclusions

From January 2007 up to August 2009, an energy consumption reduction of 360,568 kWh was achieved, which represents a 25.7% reduction over a two-and-a-half-year period.

As part of this programme, in 2009 Apli Paper, S.A. was awarded “Best Environmental Implementation Programme” by the Club EMAS Catalonia for “Action to reduce energy consumption through optimization of the lighting system accompanied by awareness-raising activities”.

**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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