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# CLEANER PRODUCTION FACTSHEET

## GEMAYEL FRERES S.A.L.

### BACKGROUND

Established in 1929, Gemayel Frères S.A.L. has pioneered the cardboard industry in Lebanon. The company started then the production of cardboard from recycled paper. In 1957, the company introduced the production and sales of corrugated cardboard boxes to the country. Although the company's manufacturing facilities were bombed twice in 1978 and in 1984, it swiftly resumed its presence in the corrugated cardboard industry. It caters to this market by manufacturing and selling corrugated cardboard and packaging for industrial and agricultural products. Certified ISO 9002:1994 since March 1998 than upgraded to ISO 9001/2000 with the scope of design, manufacture and printing of corrugated cardboard packaging and speciality products such as POS displays and promotional items, the company is backed by modern technology, and by its long years of experience.




### EVALUATION STATEMENT FROM GEMAYEL FRERES S.A.L.

*The Lebanese Cleaner Production Center (LCPC) has contributed in highlighting the fact that a cleaner production involves large schemes as well as small cost free practices that would generate savings.*

*Our close coordination developed in form of workshops and site visits has proven beneficial and rewarding. Resource saving programmes, already initiated and implemented by Gemayel Freres s.a.l. such as fuel consumption, steam condensate return, machines set up time, inks color changes, and others, were topped by the idea of using energy efficient motors suggested by the LCPC Consultant. The main object being the environmental awareness coupled with cost effective processes. Some of these options have been implemented while others are in progress.*

*We at Gemayel Freres would like to take this opportunity to thank the LCPC team of Experts for the time and efforts they have exerted to provide us with their assistance and valuable know-how.*

  
Nabil J. Gemayel  
Chief Operating Officer  
Gemayel Freres s.a.l.

### CP OPTIONS GENERATED BY GEMAYEL FRERES S.A.L.

- Control the boiler fuel / air mixture;
- Inks colour changes on printing units;
- Steam condensate return closed circuit;
- Trim extractor electric motors / use energy efficient motors (LCPC);
- Machines set up time on Print-Cut units;
- Product flow / in-out;
- Treatment of effluent (pending project);
- Enhancing the fuel savings by pumping the atmospheric vent into the boiler (pending project).

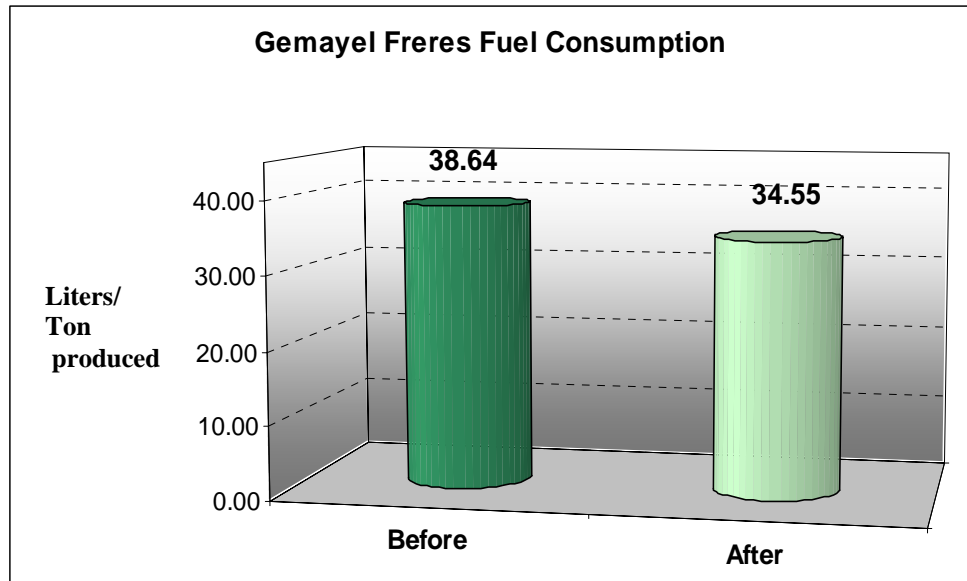
### SAVINGS ACHIEVED AT GEMAYEL FRERES S.A.L.

The application of the first two CP options **saved yearly 74,810\$ at an investment of 26,880\$.** The payback period is 4 months.

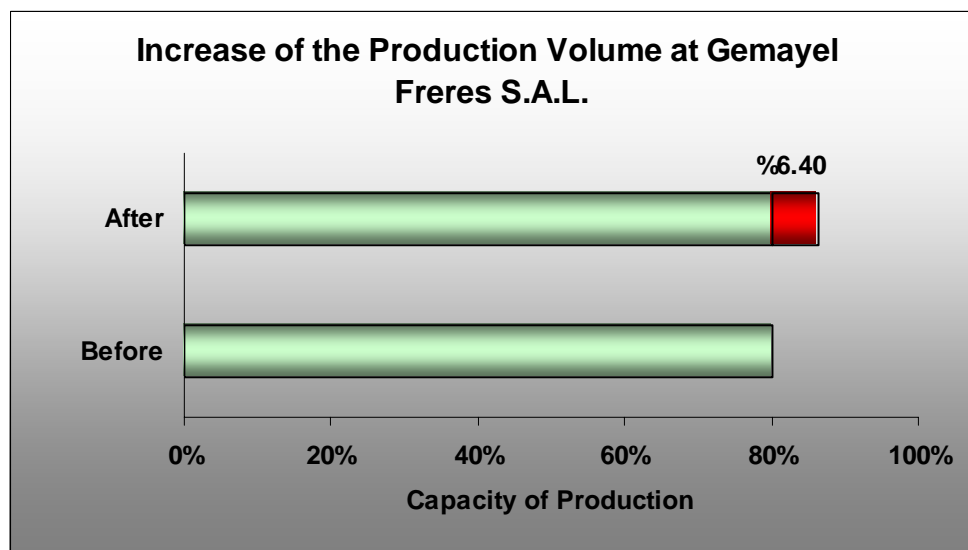


The application of the third and fourth CP options generated **could have saved** in 2004, **27,564\$ at an investment of 16,200\$.**

An example of the decrease in fuel consumption by 10% is presented in the graph below:



The production in terms of volume of boxes per year before and after the implementation of the machines set up time on print-cut units is illustrated below:



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