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## Good practices sheet Energy savings in sawmills

### **ENERGY MANAGEMENT**

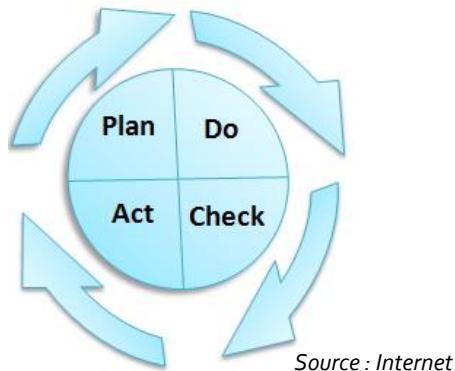
(monitoring suppliers, consumption, flows)

## INVESTMENT LEVEL (FROM 1 TO 3):

- ▼ HUMAN INVESTMENT :  TO 
- ▼ RETURN ON INVESTMENT :  TO 
- ▼ COSTS : € TO €€

## BACKGROUND AND ISSUES

Efficient energy management helps companies to achieve savings, reduce their energy consumption and strengthen their competitiveness. As energy savings are of concern to everyone, a programme that is as comprehensive as possible should be introduced involving all the company's staff. This management method, based on a process of continuous improvement, is being developed in accordance with an efficient management programme (see Deming wheel: Plan, Do, Check and Act). The technical measures are inadequate unless they are supplemented by organisational measures earlier in the decision-making process.



*The virtuous circle of the continuous improvement approach*

## PRESENTATION OF THE PLAN AND ITS IMPLEMENTATION

Energy management involves the entire operational side of the company at all levels and must contribute to the adoption of simple measures at minimal cost:

*Monitoring the energy supplier*

- Analysing the data provided by the supplier (monthly load curve: the basic information for the month and a list of overruns). Analysing the causes enables corrective actions to be developed (e.g. centralised shutdown of the power supply at the end of a shift, crushers shut down at peak hours);
- Optimising the contract in accordance with consumption and forecast changes (installed power, type of contract, overruns, downward slides, tariff changes by groups and taxes, machine investment, etc.).

#### *Monitoring energy consumption*

- Appointing an individual to be responsible for energy control;
- Installing an electricity meter on each machine, enabling regular monitoring of energy costs and the prioritising of corrective actions;
- Monitoring the consumption of individual vehicles: the sawmills have a relatively large fleet of vehicles. The consumption ratio per fork-lift truck can help identify any downward or abnormal trends in accordance with the station, the driver, the age of the vehicle, etc.

#### *Monitoring production*

- Introduction of a shutdown monitoring system: shutdowns often lead to overconsumption of energy (decreased productivity, increased non-compliance, etc.)
- Establishing working groups to consider the dynamics of progress: maintenance plan, training, awareness programme for operators, etc.

#### *Monitoring logistics flows*

Introducing a system for monitoring logistics flows within the company in order to optimise them: limiting journeys (particularly without a load), installing automatic ferries (autoclaves, planing machinery), and optimising routes.

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## POTENTIAL GAIN

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- Energy savings as a result of the technology: difficult to calculate as heavily dependent on the degree of involvement of the enterprise

Examples observed during visits to sawmills:

- Revision of the energy contract for the winter period: savings of €20k (over 3 months)
- Monthly monitoring with a list of overruns, monitoring the cause of downward trends (sawmills no. 13 and no. 17);
- Consulting with new energy suppliers (sawmill no. 11);
- Tailored consumption meter (sawmills no. 3 and no. 4);

- Centralised shutdown of the power supply on completion of shift (sawmills no. 1 and no. 16);
- Hire an employee dedicated to energy (sawmill no. 3), optimisation of logistics flows (sawmills no. 3 and no. 7);
- Analyse shutdowns of each machine (times, causes, preferred actions), progress group, software for monitoring troubleshooting maintenance (sawmills nos. 4, 7, 8, 9 and 13);
- Shutdown of machinery during peak hours in winter (sawmill no. 5: crushers; sawmill no. 10: heat pump);
- Monitoring consumption of vehicles (sawmills no. 9, no. 13 and no. 17);
- Reduce speed of forklift trucks (sawmill no. 12: reduce speed from 30 to 10 km/h).
- Other improvements:

Energy management results in higher motivation of the staff involved in the process of continuous improvement and leads to improved working conditions.

This approach also allows an evaluation of the electrical carbon footprint and enhances the company's environmental involvement.

- Points to note:

Measuring the effectiveness of corrective actions taken is not always formalised.

The Energy Savings Certificates are doubled if the company has introduced an Energy Management System and is ISO50001 certified.

- Reproducibility:

Any programme for the improvement of energy efficiency is specific to each enterprise. The practical steps that can be taken are therefore extremely variable for an identical final objective.

*We do not understand things that we cannot measure:*

*We cannot control things that we do not understand:*

*We cannot improve things that we do not control.*