



Good practices sheet
Energy savings in sawmills

HEAT RECOVERY UNIT ON DRIER

INVESTMENT LEVEL (FROM 1 TO 3):

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

BACKGROUND AND ISSUES

During the drying process, one of the major sources of energy loss is the air extracted from the drier. With the increase in energy costs, the manufacturers try to recover this heat to preheat the air entering the drier.

The main factors to be considered before investing in a heat recovery system are the temperature levels, flow rates, the availability of the source and the risks of corrosion and clogging. Conducting a diagnostic energy analysis of the site enables the heat requirements to be identified.

PRESENTATION OF THE PLAN AND ITS IMPLEMENTATION

For most existing heat recovery systems, the recovery of energy is provided by air-air heat exchangers. These plates retransmit the heat from the extracted air to the air entering the drier. In this way, the thermal energy provided by the drier can be recovered according to the climatic conditions inside and outside of the drier.



Heat recovery unit of a drier



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Examples observed during visits to sawmills:

- Heat recovery units placed on the roofs (sawmills nos. 3, 4, 5, 14 and 17);

Recovery of hot water leaving the drier for the canteen located nearby (sawmill no. 6).

POTENTIAL GAIN

- Energy savings as a result of the technology¹ : 5 to 15%

(Recovery of heating energy involved)

In all cases, this exercise is difficult to carry out on account of the efficiency of the heat recovery units depending on the external weather conditions as well as on the drying conditions inside the cells.

In France:

Possibility of receiving a bonus for installing a heat recovery unit. This is paid by the energy suppliers within the framework of the “**Energy Savings Certificates**” (ESC) programme. This bonus can vary from one supplier to another.

- Other improvements:

Improved drying quality with the arrival of air at a consistent temperature.

- Points to note:

The heat recovery units require extensive development after they are installed, as well as regular maintenance. A number of sawmills are considering the return on investment (e.g. sawmills no. 5 and no. 7).

- Reproducibility:

This system is proposed as an option for use on many new driers and can be adapted to suit driers currently in operation.

17% of industrial fuel consumption is lost as residual heat² at more than 100°C according to studies by ADEME

¹ Source: drier manufacturers

² Residual heat: The heat left over from a process that is not used by the process
