

Eliminating seasonal energy bottlenecks improves processes

Increasing production capacity by optimizing energy efficiency

Would you like to increase your production but you have already reached your maximum capacity? Unnecessary energy consumption in the different stages of your production process may be an important source of your capacity problem. But where exactly are the bottlenecks located? And what is the best approach to eliminating them?

To get answers to these questions, Spanolux engaged Laborelec's services. Its energy experts closely investigated the local energy production and the most energy-consuming stages of the production process. Based on this research, they proposed the most feasible improvements to enable Spanolux to tap into the full potential of its production capacity.

Spanolux is the only Belgian producer of medium-density fibreboard (MDF). Since 1998, the company, based in Vielsalm, has been producing high-quality MDF for laminate flooring, furniture, the construction industry, and interior design applications. Spanolux's production depends heavily on the heat provided by the local biomass plant.

FINDING THE BEST SOLUTION STEP-BY-STEP

Spanolux requires a lot of heat, which is in short supply. With a view to increasing its production capacity, the company decided to have its heat production and consumption process audited. 'We had a general idea of the input and output fluxes of thermal energy, but we wanted a more detailed analysis of our heat production and consumption. We also asked Laborelec to analyze various improvement scenarios. Based on this assessment, we will choose the solution that best fits our needs,' explains Jan Goeminne, Spanolux Plant Manager. The consequent audit that Laborelec conducted was a two-phase energy study. The first phase mapped out Spanolux's heat production, while the second phase analyzed each energy consumer in the production process.

IDENTIFYING AND UNBLOCKING SEASONAL ENERGY BOTTLENECKS

The Laborelec experts discovered several major bottlenecks in both energy production and consumption. 'Our energy needs are greatly affected by the different seasons,' states Goeminne. 'For example, in the summer, the dryer's capacity is limited by the maximum allowable wood fibre temperature.

INCREASING ECO-EFFICIENCY

- > Does your installation need replacement?
- > Is your installation working flawless in all circumstances?
- > Are you using 100% of your production capacity?

With the advice of an energy expert, you can considerably lower both your expenses and the environmental impact of your installations.



Laborelec guides you in every phase of the project towards an efficient solution: from the identification of the possibilities for improvement, to the selection of the best possible solution, to support during the implementation of a new installation or the adaptation of existing processes or equipment.



'How can we optimize the heat production and consumption in order to make optimal use of our production capacity? The energy expert Laborelec developed various scenarios for us.'
Jan Goeminne, Spanolux Plant Manager.

The maximum capacity of the fans restricts the heat input and hence the maximum production of the dryer. In the winter, the wood is extremely damp or even frozen, thus requiring more heat to dry the wood chips. We could press the water out of the wood chips prior to drying, but this, in turn, would create more wastewater.'

MODELLING DIFFERENT SCENARIOS FOR IMPROVEMENT

Having identified the major bottlenecks, Laborelec searched for the best solutions. The energy expert modelled different options for improvement in the energy and MDF production processes, in close cooperation with Spanolux engineers. 'Based on our measurements, models of different improvement scenarios were developed, one of which suggested that we reintroduce our gas engines in order to meet the extra energy needs,' says Goeminne.

REPORT SUPPLIES CONCRETE IMPROVEMENT SCENARIOS

Laborelec presented the results of the scenario analysis in a clearly structured report and advised Spanolux on the best solutions. 'Thanks to Laborelec's analysis, we now know where the problems are and how to best solve them,' adds Goeminne. 'The Laborelec report provided us with the objective perspective and useful advice we needed. It precisely determines what needs to be done in order to make optimal use of our production capacity and avoid new energy bottlenecks.'



The insufficient flow generated by the fans limits the heat input and, hence, the maximum production of the dryer in the summer.



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- > 50 years of experience
- > Increased profitability of your installations
- > Independent and confidential advice
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