



## Energy use mapped out and optimized

### Maximizing energy capacity through more efficient consumption

Are the energy costs of your production processes too high? Did you reach your maximum energy capacity? Is there still a lot of residual heat in your production processes? It requires expert know-how to find the right answer to each of these questions, and the situation becomes even more complex when all of these questions need to be answered simultaneously.

Nevertheless, Mora has succeeded in meeting this challenge. With the help of Laborelec, the snack company optimized the energy performance of its production process, without significant additional investment. An energy study of the site and a detailed audit of the incinerator formed the foundations of this success.

Mora manufactures snacks through an energy-intensive process. The production unit in Maastricht, the Netherlands regularly reached its maximum capacity. For this reason, the company wanted to investigate whether or not the unit's current energy consumption could be reduced.

#### THE PARTNER WITH THE RIGHT EXPERTISE

The snack producer called upon Laborelec to conduct the detailed analysis. According to Hub Jacobs, Utility SHE Manager at Mora, Laborelec was an obvious choice for the job: 'Laborelec has already evaluated the energy performance of several of our sites. Their experts are familiar with the processes and methods used throughout the Group, thus enabling them to identify best practices and implement them at our site. Laborelec is also an expert in energy-related topics. The company knows the pros and cons of the various relevant energy technologies. Drawing from this extensive knowledge base, they can objectively identify the solution that best fits our specific situation.'

In the past, Laborelec had already conducted an energy survey at the Maastricht site. This had revealed that 30% of the site's natural gas consumption was associated to the operation of the incinerator, the installation that purifies the greasy fumes of the production process and, thus, limits the odour nuisance. Through the study, Laborelec had also discovered that the temperature in the chimney after heat recovery from the incinerator was still 280-300 °C. Consequently, Laborelec had concluded that there was indeed room for improvement in the installation. Nevertheless, the question remained: what is the best solution for the specific situation of Mora Maastricht?

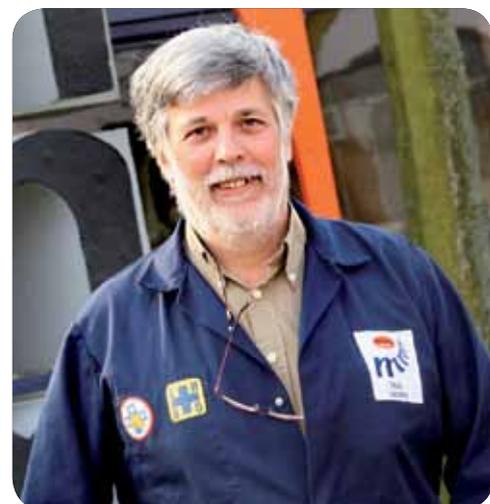
#### IMPROVED ENERGY CAPACITY AFTER ENERGY SURVEY

- > Has your company reached maximum energy capacity?
- > Do your installations consume too much energy?
- > Do your production processes consume energy efficiently?

With the advice of an independent expert, you can make better use of your energy capacity.



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.



*'We were confronted with a complex energy challenge: how can we limit the energy costs of our odour control, maximize heat recovery, and make better use of our energy capacity? Laborelec developed the best possible solution for us.'*  
Hub Jacobs, Utility SHE Manager at Mora.

## CURRENT TECHNOLOGY OR AN ALTERNATIVE?

First, Laborelec investigated the possibility of replacing the incinerator with an alternative solution. 'Among other things, we looked into the potential of a scrubber. Such an installation does not consume any natural gas, but it does produce a lot of wastewater. Moreover, the installation requires daily cleaning, and the cost of implementation is rather high. Other technologies, such as thermal plasma and UV, had too many practical disadvantages. For these reasons, we decided to continue using an incinerator,' states Jacobs.

## DECISION BASED ON REAL-LIFE CONTEXT

After confirming that the incinerator was the best technology for the Maastricht site, Laborelec assessed whether Mora should install a new piece of equipment or merely adjust the existing one. Close collaboration with various suppliers played a crucial role in making this decision.

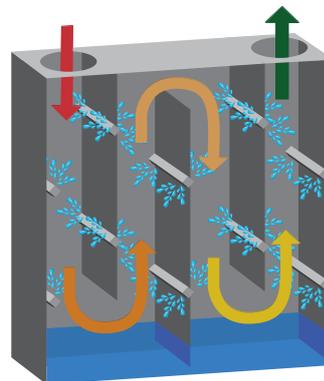
'The Laborelec experts worked directly with several suppliers in order to evaluate the feasibility of certain improvement options. For instance, counterflow heat recovery seemed interesting from a theoretical point of view. However, the suppliers determined that it was unfeasible,' explains Jacobs. 'Laborelec also provided the suppliers with concrete guidelines and measurement data, which they could use to develop a solution that perfectly matched the situation in Maastricht.'

## CONCRETE SOLUTION BASED ON QUANTITATIVE AND QUALITATIVE ANALYSIS

Mora received offers from three suppliers. Laborelec evaluated the various proposals and summarized the results in a clear report. The report contained a quantitative analysis based on return on investment and investment cost, as well as a qualitative assessment based on the pros and cons of the various proposals. Laborelec's many years of experience with incinerators and its knowledge of the Mora processes enabled the energy expert to conclude that an adaptation of the existing equipment was the best solution for the Maastricht plant.

## ADDITIONAL PROCESS IMPROVEMENTS

With the goal of capturing the residual heat in the incinerator in mind, Laborelec evaluated all of the site's energy consuming processes and gave several recommendations on how to improve them. One of the proposals was to replace the electric heating of the frying installations with a thermal oil-based power supply. 'This complete package of solutions enabled us to free up additional capacity,' concludes Jacobs.



*Laborelec studied the potential of scrubbers and other alternative technologies. A scrubber does not consume any natural gas, but closer analysis revealed that this technology is not appropriate for the Mora plant in Maastricht.*



### FIVE REASONS FOR YOU TO CHOOSE LABORELEC:

- > One-stop shopping for your energy related services
- > 50 years of experience
- > Increased profitability of your installations
- > Independent and confidential advice
- > Recognized and certified laboratory

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