

Support in selecting the most sustainable options

Optimal production of cooling, compressed air and vacuum

Is one of the installations in your energy production park nearing the end of its lifespan? The ideal opportunity to take a step forward. But how? Which technologies best match the specific needs of your company? And how can you implement them?

When Panasonic Energy Belgium needed to replace its cooling tower, the company called upon the independent expertise centre Laborelec to identify the most sustainable and cost-effective cooling technology. As part of its investigation, Laborelec examined the main cooling consumers. It explored whether or not these systems were up for improvement. If so, this would have a significant impact on the choice of cooling technology and the new installation's dimensions.

Panasonic Energy Belgium's plant in Tessenderlo produces alkaline batteries for the European market. Production highly depends on compressed air and the creation of a vacuum. The company generates these conditions locally using compressors and vacuum pumps, for which water-cooling is ensured by an open cooling tower.

SEARCHING FOR THE BEST SOLUTION

When the mechanical part of the cooling tower was nearing the end of its lifespan, the technical team decided to overhaul the entire cooling system. 'We had already examined a few options ourselves. For instance, we considered a dry cooler or even heat recovery instead of a cooling system,' states Peter Vanderheiden, Plant Engineer at Panasonic Energy Belgium.

Which of these options is ultimately the best? Not only financially and technically, but also ecologically? 'Panasonic Energy Belgium has been devoted to reducing CO₂ emissions for years, and, consequently, management considers the environmental impact of every investment,' explains Vanderheiden. 'However, we have neither the time nor the expertise to thoroughly evaluate each possible option. Furthermore, we cannot rely on the advice given by manufacturers, since they have commercial motives.'

INCREASING ECO-EFFICIENCY

- > Does your installation need replacement?
- > Is your equipment working flawless, in all circumstances?
- > Do you accurately adjust the process settings according to the type of the product?

With the advice of an independent 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.



'Which options for improving the cooling system, compressors, and vacuum pumps have the lowest impact on the environment and deliver the fastest return on investment? We were able to find the answer to this question thanks to Laborelec's independent and professional advice.'

Peter Vanderheiden, Plant Engineer at Panasonic Energy Belgium

INDEPENDENT ADVICE IS NECESSARY

Therefore, Panasonic Energy Belgium decided to seek assistance from an independent party with an extensive knowledge of energy matters. After Panasonic Energy Belgium's energy supplier recommended Laborelec, Vanderheiden got in touch with the experts there. 'Laborelec is an independent technical expertise centre with a specialization in various technologies used in energy production, distribution, and consumption. They advise companies such as ours in their search for the most cost effective and energy-efficient solutions.'

STARTING FROM A SPECIFIC CONTEXT

In order to develop a custom-made solution, Laborelec first investigated the specific context of the Panasonic Energy Belgium plant. The Laborelec expert not only took a closer look at the cooling installation, but also at the main systems that require cooling. 'If we can reduce the cooling needs of the compressors and vacuum pumps, we might be able to lower the power requirement of the new cooling installation and hence use a different technology,' says Vanderheiden. 'The energy audit revealed that the compressors account for about 23% of the site's overall electricity consumption. Including the compressors in the investigation certainly proved to be a good decision.'

SPECIFIC ADVICE

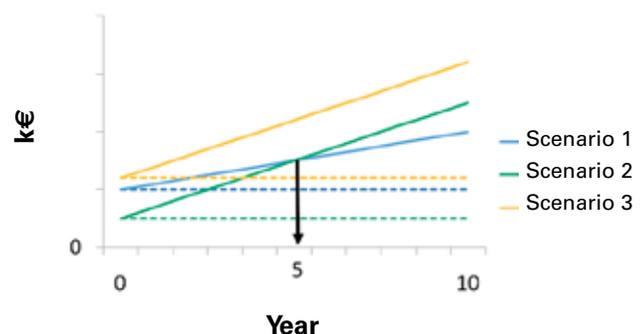
Understanding the Panasonic Energy Belgium plant's specific context enabled Laborelec to identify the most appropriate options for improvement. The selection process included the assessment of the options' environmental impact and their total cost, i.e. the investment cost and the working cost spread over ten years.

'The Laborelec expert developed various scenarios. For example, he balanced the pros and cons of reducing water and electricity consumption against the cost of the initial investment, for different combinations of a dry cooler with the present compressors or speed-controlled compressors,' Vanderheiden illustrates. 'Analysis revealed that the cost of certain scenarios would already be recovered after two years.'

READY FOR IMPLEMENTATION

Laborelec compiled all of the information—from energy balance to evaluation of the various scenarios and concrete advice—into a comprehensive report. 'With this report, we can submit an objective proposition to our management team. Furthermore, we now have a definite solution that we are sure is the most favourable option for our plant. The only thing left to do is implement it,' says Vanderheiden.

Comparison of the scenarios



Laborelec assessed the different options for reducing water and electricity consumption at Panasonic Energy Belgium's Tessenderlo plant and compared the potential reduction to the required initial investment.



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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