

# **A meat processing plant**

## **ENERGY·WATER·ENVIRONMENT**

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### **Summary**

Reducing the energy intensity of production, water consumption, and emissions is becoming increasingly important for companies and for the entire economy. The article presents the environmental impact of the operation of a meat processing plant. Energy and fuel may account for about 5% of costs incurred (especially in the case of firms using many cooling systems). Consumption of energy carriers at meat processing plants depends on multiple factors, including the volume and structure of the output, the production technology, the thermophysical properties of the raw meat, the degree of mechanization of production operations, and the degree of capacity utilization. Based on available sources, knowledge regarding the energy intensity and energy efficiency of a meat industry plant was presented in an organized manner. An original design for a meat plant as a user of energy carriers and water was presented. Parameters used to assess the environmental impact of plants in this sector were defined. Strategies for the implementation of pro-ecological solutions at the company level require an approach to emission reduction which encompasses the entire plant, where production and the use of emission sources should be correctly balanced. It was also pointed out that the varied energy intensity of production within the same sector of industry provides evidence of the existing potential to improve energy efficiency, which can at the same time be a chance to increase the competitiveness of individual meat processing companies. The indicators of consumption of energy carriers presented in the article may be of importance in processes of energy transformation and the reduction of production costs in meat processing. Part of the article is also devoted to the cost of energy carriers, which is one of the cost drivers.

**KEY WORDS:** meat industry, environment, energy, ecology