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TECHNICAL AND ECONOMIC ASPECTS OF WASTE HEAT UTILISATION

ABSTRACT

The main aim of the following presentation is the comparison and evaluation of the conditions for waste heat utilization in Germany and in Poland. This paper presents synthetically the results of economic analysis of the different technical variants. The employment of heat pumps and other heat transformers, respectively, can reduce the energy consumption, but using of those technical possibilities depends mainly on the economic aspects. The main parameters of the financial calculations were the energy and equipment costs but beyond it a number of other factors were also considered and compared, for example calculation interests, profit tax level and similar. Four different technical alternatives were analyzed, it is using of absorption heat pump, compression heat pump, heat transformer (absorption), and a special combined system with gas motor to drive of heat pump compressor. The capital value as main result of the investigations is in Poland generally lower because of relatively high investment cost and lower energy prices compared to the situation in Germany and West Europe. The basis for the presented comparative analysis was an industrial project in Germany which effected in development of concepts for waste heat using.

KEYWORDS

[waste](#), [heat](#), [case study](#), [cost analysis](#), [compression heat pump](#), [refrigeration installation](#)

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