

POLITECHNIKA ŚLĄSKA W GLIWICACH  
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PRZEMYSŁOWEJ



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ROZPRAWA DOKTORSKA

*Koszty środowiskowe w ujęciu procesowym kosztów  
działalności przedsiębiorstw górniczych*

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## Abstract

The development of many of the world's industries, including coal mining, which began in the mid-19th century, has had a powerful impact over the past decades on the surrounding environment.

As a result, already in the second half of the last century, more and more attention began to be paid to the issue of environmental costs incurred by companies and their importance in the assessment

of a given institution. Polish law in force as well as European law, impose an obligation on entrepreneurs carrying out activities that have a negative impact on the environment to pay environmental fees, the amount and also the quantity of which largely depend on the degree of environmental degradation.

Despite numerous publications and regulations defining precisely the concept of environmental costs, as well as their many subdivisions, there is currently no system in place that would allow meticulous reporting of environmental costs incurred by companies in the mining sector. The lack of a precise system for reporting environmental costs generates many problems and difficulties related to, among other things, properly determining the belonging of a given cost to an appropriate group, or even determining whether a listed cost belongs to an environmental cost group or not. In addition, this is also affected by the low awareness of environmental costs in the broad sense among coal mine employees responsible for preparing reports.

Based on the analysis of the literature, the thesis of the work was formulated: it is possible to identify areas of improvement in environmental cost management in process terms in coal mines. The main objective of the work was to improve the management of environmental costs from a process perspective in Polish coal mines. The scientific objective was to identify areas of improvement in environmental cost management in mining enterprises from a process perspective. In turn, the application goal was the construction of a tool supporting environmental cost management for selected production processes of coal mines. Accordingly, the author decided to create a database using a tool from the MS Office package - MS Access. This goal was achieved by building a form for archiving data on environmental costs incurred by individual departments. The information that should be included in the form, and thus in the departmental report on environmental costs, was not chosen at random, because thanks to it we can learn a lot not only about the amount and type of cost, but also by which cell a given cost is most often generated, as well as who most often deals with the said costs.

To achieve the scientific goal of the study, the author used analytical methods. Both in the case of using simple and complex analytical methods, the conclusions of the research presented themselves. Analysis of the results of a set of questions on expanding knowledge of environmental costs and environmental protection, both in the case of opportunity and willingness to participate, showed that among the respondents there is a predominant group of people who have the opportunity and willingness to participate. However, there remains a group of people who are not interested in such participation or do not have this opportunity. A very similar situation can be observed in the case of questions about the desire and possibility of exchanging experiences, here also the answers of those who have the opportunity and show at least a minimal interest in participating in conferences or seminars prevail in conferences or seminars on environmental costs and environmental protection. The analysis of the answers given to the questions on the availability of tools to support the environmental cost reporting procedure overwhelmingly confirmed the ability of employees to use tools to support the environmental cost reporting process. In the case of the group of questions regarding the reporting process and employees' opinions of the process, the use of the Ward Method and the Mahalanobis Distance confirmed the earlier results of the analysis indicating a positive assessment of the environmental cost reporting process among those responsible for the reports.

All the objectives set in the study were met, and the thesis set was confirmed.