

Management of Production Processes and Economic Assessment at a Mining Enterprise Under Conditions of Political Instability*

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Abstract

This study provides a comprehensive economic assessment of longwall mining operations at the Velykomostivska mine, part of Lvivvuhillia SE, using the criteria recommended by the United Nations Industrial Development Organization (UNIDO) for evaluating business projects. The research focuses on applying a structured approach to assess the financial, technical, and operational aspects of longwall mining, considering the current socio-economic and geopolitical conditions in Ukraine. The study aims to enhance resource extraction efficiency while maintaining economic and operational sustainability amidst political and market instability. The evaluation methodology is based on UNIDO standards, incorporating a detailed cost-benefit analysis and metrics such as internal rate of return (IRR), net present value (NPV), and the payback period. These metrics help determine the financial feasibility and overall viability of longwall mining operations at the Velykomostivska mine. Additionally, the study examines risk factors, market conditions, and investment requirements, aligning them with best practices in project management. The findings highlight strategic areas for optimizing the economic resilience and productivity of the mine, offering insights into sustainable resource management and decision-making. The research contributes to the broader field of mining enterprise management by presenting a robust evaluation framework that can adapt to dynamic socio-political challenges while supporting the long-term growth of the sector in Ukraine.

Keywords: energy security, underground mining, longwall extraction, geopolitical risks, statistical treatment, economic evaluation, investment attractiveness