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Renewable energy sources as a foundation of sustainable development
Experiences of enterprises in the pomeranian voivodeship

ABSTRACT OF THE DOCTORAL DISSERTATION

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Kielce, 2025

The main objective of the dissertation is to theoretically and empirically examine the consequences of the use of renewable energy sources by enterprises in the context of environmental protection, societal impact, and economic development. The research problem takes the form of the question: “What is the relationship between the use of renewable energy in enterprises and the implementation of sustainable development policy?”. The following research questions were formulated: P1: “Which positive changes in the natural environment do enterprises indicate as outcomes of implementing renewable energy sources?”; P2: “Does the use of renewable energy sources contribute to improving the quality of the work environment in companies?”; P3: “What long-term economic benefits do enterprises achieve through the implementation of renewable energy sources?”. A main hypothesis was formulated: “The implementation of renewable energy sources constitutes a key element of sustainable development, contributing to increased competitiveness, improvement of stakeholders’ quality of life, and environmental protection, and it also supports the pursuit of harmony between economic development, social responsibility, and ecosystem protection.”, as well as specific hypotheses: H1: “The use of renewable energy sources supports environmental protection, promotes rational use of natural resources, and reduces the negative impact of human activity on the surroundings.”; H2: “The use of renewable energy sources by enterprises supports a responsible approach to the environment, fosters the creation of a better work environment, and helps build greater environmental awareness.”; H3: “The use of renewable energy sources by enterprises positively affects their competitive position and market value, supports their development, and brings long-term economic benefits.” In the theoretical part, an analysis of Polish and English-language literature as well as applicable legal acts was employed. In the empirical part, the diagnostic survey method was applied using an original questionnaire (Likert scale), and the data were subjected to statistical analysis, including exploratory factor analysis and scale reliability analysis. The empirical scope of the study covers managers representing 355 enterprises using renewable energy sources and operating in the Pomeranian Voivodeship, and the time scope is defined as the period 01.08–30.11.2024. The results of the analyses led to the identification of statistically significant factors related to the use of renewable energy sources and to the development of three original factor models for assessing the use of renewable energy sources in the environmental, social, and economic dimensions, which enabled empirical verification of the adopted hypotheses and determination of the degree of achievement of the dissertation’s objective. The contribution of the dissertation to the development of management and quality sciences includes systematization of knowledge in the epistemological and methodological dimension, a proposal of a research procedure for

analysing the impact of renewable energy sources, and empirical results relating to the factors of the impact of renewable energy sources on enterprises, while the practical significance results from the possibility of adapting the developed models to monitor the effects of implementing renewable energy sources, support managerial decision-making, non-financial reporting, and the design of support instruments and regulations.

Keywords: renewable energy sources, sustainable development, enterprises of the Pomeranian Voivodeship, diagnostic survey, exploratory factor analysis.