

## Chapter 4

# Navigating Investment Risks in the Renewable Energy Market of Developing Countries: Efficiency vs. Effectiveness

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### ABSTRACT

*The chapter deals with investment risks in the energy markets. Two important aspects are compared: efficiency and effectiveness. Efficiency is related to the optimal use of resources, both financial and human, to achieve goals. Efficiency is assessed by the achievement of the final goals and expected results. Investment risk management in the energy sector of developing countries requires a balance between efficiency and effectiveness. The chapter gives unexpected results in the management of investment risks in the renewable energy market in developing countries, which may be interesting and meaningful for discussion and further research. An accurate assessment of investment risks in alternative energy and fossil energy depends on specific conditions, regional characteristics, and other factors. However, in the long term, there are arguments in favor of the fact that investment risks in alternative energy may be higher than the risks of investments in fossil energy.*

DOI: 10.4018/979-8-3693-0440-2.ch004

## INTRODUCTION

Nowadays the energy problems formed by the deepening structural crisis faced by the countries of the world make the use of alternative energy sources even more urgent. On the other hand, the main direction that levels the sustainable development of countries is investments. For this reason, the systematic analysis of certain aspects of investment risk management in the direction of fossil and alternative energy, which are the main directions of natural energy, maintains its importance. In general, it should be noted that in the context of the future of renewable energy, there is a need to analyze the rationality of investment in renewable energy by the countries of the world, as well as the determination of the main goals of progressive development in this direction. Within the framework of the mentioned improvement paths, the analysis of the return on investment in residual energy and the return on investment in renewable energy should be carried out in the framework of long-term analyses. The abundance of financial resources in developed countries means that these countries do not face serious financial problems related to renewable energy.

The paper analyzes the energy market of developing countries such as Turkey, Brazil, China, India, and Egypt, which is important for understanding the current state and prospects for the development of the energy industry in these countries. Each of these countries has its own unique characteristics due to the diversity of economic, social, geographical, and political conditions. It is important to keep these differences in mind when analyzing energy markets.

In the case of Turkey, this country has a strategic geographic position, which makes it an important transit point for energy resources. Türkiye is heavily dependent on energy imports, including oil and natural gas. In recent years, she has paid great attention to the development of renewable energy sources such as solar and wind energy (Kiliç, 2006).

Brazil has vast natural resources, including hydropower and biomass. Water resources play an important role in the country's energy, and it is also actively developing renewable energy sources such as solar and wind energy, as well as bioenergy (Lazaro et al., 2022).

China is the world's largest energy consumer. It relies heavily on coal, which makes up a large part of its energy mix. However, China is also actively investing in renewable energy sources, especially wind and solar energy, to reduce its dependence on coal and reduce greenhouse gas emissions (Yang et al., 2022).

India is also facing rapid growth in energy consumption due to economic development. It is actively developing renewable energy sources, especially solar and wind energy, to meet its growing energy needs and reduce its environmental impact (Gulagi et al., 2022).

Egypt has significant oil and gas reserves but is also looking to develop renewable energy sources, including solar and wind energy, to diversify its energy mix and improve energy security (Moussa & Gurguis, 2023).

Renewable energy sources are playing an increasingly important role in the energy industry in developing countries, and investors are increasingly evaluating opportunities in this area. However, developing countries may be at increased risk due to political instability, regulatory changes, financial problems, and other factors.

The results of this study may provide new examples and insights into how investment risk management can be effectively adapted to the specific conditions of developing countries and the renewable energy market. This can help investors, entrepreneurs, and regulators make more informed decisions and develop strategies for successful investments in this area.

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