Chapter 3
Clean Energy Development Affecting Green and Renewable Energy–Related Financial Literacy

José G. Vargas-Hernández
https://orcid.org/0000-0003-0938-4197
Financial Literacy Research Center, Universidad Cristóbal Colón, Mexico & Tecnológico Nacional de México, ITS Fresnillo, Mexico

ABSTRACT

This research study discusses the intersection between green and renewable energy-related financial literacy and clean energy development. With the acceleration of global sustainability increased changes to more sustainable energy, the role of clean energy projects in determining financial literacy within the green industry becomes more critical than ever before. This research examines the conceptual foundations, theoretical frameworks, and empirical analyses involved in this intersection. From a comprehensive review of literature and data, the research concludes significant drivers of financial literacy in the renewable energy market, clean energy policy impact on financial knowledge, and sustainable investment decision implications. The research claims that clean energy development has a significant role to play in improving financial literacy in green energy niches through increased market transparency, educational initiatives, and policy interventions ensuring well-informed decisions.

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INTRODUCTION

The energy sector of the world is undergoing a sea change as nations attempt to restrict carbon emissions and switch to cleaner energy sources. This shift to clean energy has created new financial markets, investment, and financial literacy demands that extend beyond traditional energy sector experience. The intersection of clean energy development and financial literacy is a major area of study, particularly in green and renewable energy-based financial literacy.

Financial literacy, traditionally defined as the ability to understand and use effectively various financial abilities like personal financial management, budgeting, and investing, has come to include specialized domains of knowledge. Green and renewable energy financial literacy is specifically the understanding of financial concepts, instruments, and markets related to sustainable energy investment, clean technology financing, and environmental risk factoring in financial decision-making.

The timeliness of this research is highlighted by the rapid expansion of the clean energy sector and the accompanying financial stakes. The International Energy Agency (2024) finds that clean energy investment across the globe reached record levels, with renewable energy technologies attracting high volumes of private and public investment. This trend has created demand for improved financial literacy on the part of various stakeholders, from individual investors and institutional fund managers to policymakers and consumers who make energy-related financial decisions.

The relationship between clean energy development and financial literacy is multidimensional and dynamic. Clean energy initiatives require complex financing mechanisms, such as green bonds, renewable energy certificates, power purchase agreements, and carbon credits. These instruments are interpreted based on specialist knowledge that extends far beyond general financial literacy. Moreover, the volatility and unique risk profiles of clean energy investments require sophisticated analytical skills and market expertise.

This research addresses some fundamental questions: How does the development of clean energy industries affect financial literacy for green and renewable energy investment? What are the primary mechanisms through which clean energy development enhances or constrains financial knowledge? How do policy institutions and market structures in the clean energy sector influence financial literacy outcomes? What are the implications for sustainable investment decision and market efficiency?

The objectives of this study are threefold. First, to formulate a general theoretical framework explaining the relationship between green financial literacy and clean energy development. Second, to analyze empirical evidence from various markets and regions to identify patterns and trends in this relationship. Third, to come up with recommendations for policymakers, educators, and financial institutions that seek to advance green energy-related financial literacy.

Multi-Criteria Decision Aid for Sustainable Energy Prioritization Using Fuzzy Axiomatic Design