DRIVING SUSTAINABLE ENERGY TRANSFORMATION: THE ROLE OF GREEN FINANCE IN CORPORATE RENEWABLE ENERGY INVESTMENTS

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ABSTRACT
The global commitment to mitigating climate change has accelerated the transition toward cleaner and more sustainable energy systems. In this context, green finance has emerged as an important financial mechanism that supports investments in environmentally sustainable projects, particularly in the renewable energy sector. The availability of green financial instruments such as green bonds, sustainable loans, and climate funds has created new opportunities for corporations to allocate capital toward renewable energy initiatives. Despite the growing attention given to sustainable finance, there remains limited empirical evidence on how green finance influences corporate investment decisions in renewable energy projects.

This study examines the relationship between green finance mechanisms and corporate investment behaviour in the renewable energy sector. The research focuses on how financial accessibility, policy incentives, and sustainability commitments influence corporate decisions to invest in renewable energy infrastructure. Using empirical data and statistical analysis, the study evaluates the extent to which green financial instruments encourage firms to adopt sustainable investment strategies.

The findings are expected to provide insights for policymakers, financial institutions, and corporate managers seeking to strengthen the role of finance in supporting the global energy transition. By highlighting the importance of green finance in facilitating renewable energy investments, the study contributes to the broader discussion on sustainable economic development and corporate environmental responsibility.

Keywords: Green Finance, Energy Transition, Renewable Energy Investment, Corporate Sustainability, Sustainable Finance, Climate Finance.

INTRODUCTION

In recent decades, environmental sustainability has become a central concern in global economic and policy discussions. The growing impacts of climate change, rising greenhouse gas emissions, and

increasing energy demand have compelled governments, corporations, and international organizations to reconsider traditional energy systems. The heavy reliance on fossil fuels has not only contributed to environmental degradation but has also raised concerns about long-term energy security and economic stability. As a result, the transition toward sustainable and low-carbon energy systems has become a global priority. This transformation, often referred to as the global energy transition, involves shifting energy production and consumption patterns from fossil-fuel-based sources to renewable and environmentally sustainable alternatives such as solar, wind, hydro, and biomass energy.

The transition to renewable energy is widely recognized as a critical step in addressing climate change and promoting sustainable economic development. Renewable energy technologies offer several environmental and economic benefits, including reduced carbon emissions, improved energy security, and enhanced long-term economic resilience. Over the past decade, technological advancements and declining production costs have significantly improved the competitiveness of renewable energy sources compared with conventional fossil fuels. Consequently, renewable energy investments have expanded rapidly across many countries, supported by government policies, international climate agreements, and growing environmental awareness among businesses and investors.

Despite the increasing adoption of renewable energy technologies, the transition toward sustainable energy systems requires substantial financial resources. Renewable energy projects typically involve high initial capital costs, long investment horizons, and technological uncertainties, which may discourage private sector participation. Therefore, the availability of appropriate financial mechanisms plays a crucial role in facilitating renewable energy investments and accelerating the energy transition process. In this context, the concept of green finance has emerged as an important financial approach that supports environmentally sustainable economic activities.

Green finance refers to financial instruments, policies, and investment strategies designed to promote environmental sustainability and reduce the negative impacts of economic activities on the environment. It encompasses a wide range of financial mechanisms, including green bonds, climate funds, sustainability-linked loans, green investment funds, and carbon financing initiatives. These financial instruments are specifically structured to channel capital toward projects that contribute to environmental protection, climate change mitigation, and sustainable development. In recent years, green finance has gained considerable attention from policymakers, financial institutions, and investors as a key driver of sustainable economic transformation.

The rapid growth of green financial instruments reflects the increasing recognition that financial markets can play a significant role in addressing environmental challenges. Green bonds, for instance, have become one of the most widely used instruments for financing renewable energy and other environmentally friendly projects. Similarly, sustainability-linked loans and climate finance initiatives provide companies with financial incentives to adopt environmentally responsible business practices. By integrating environmental considerations into financial decision-making processes, green finance encourages firms to allocate capital toward sustainable investments and reduce their environmental footprint.

Corporate organizations are important stakeholders in the global energy transition. As major consumers of energy and significant contributors to greenhouse gas emissions, corporations have a critical responsibility to adopt sustainable energy practices. In recent years, many companies have begun integrating environmental, social, and governance (ESG) principles into their corporate strategies. Corporate sustainability initiatives increasingly focus on reducing carbon emissions, improving energy efficiency, and investing in renewable energy sources. These initiatives not only help companies comply

with environmental regulations but also enhance their corporate reputation, stakeholder trust, and long-term financial performance.

Green finance has the potential to significantly influence corporate investment decisions related to renewable energy. Access to green financial instruments can reduce the financial barriers associated with renewable energy investments and encourage firms to adopt sustainable energy solutions. For example, companies that issue green bonds can raise capital specifically for renewable energy projects while benefiting from growing investor demand for sustainable investment opportunities. Similarly, financial institutions offering sustainability-linked loans may provide favorable financing conditions to firms that demonstrate strong environmental performance.

In addition to financial incentives, government policies and regulatory frameworks play an important role in strengthening green finance markets. Many governments have introduced policy measures such as tax incentives, subsidies, renewable energy targets, and carbon pricing mechanisms to promote sustainable investments. International agreements, particularly the Paris Climate Agreement, have also emphasized the importance of redirecting financial flows toward low-carbon and climate-resilient development pathways. These initiatives highlight the need for coordinated efforts among governments, financial institutions, and corporate organizations to support the transition toward sustainable energy systems.

Although the importance of green finance in supporting renewable energy development is widely acknowledged, there is still limited empirical research examining how green finance influences corporate investment decisions. Much of the existing literature focuses on macroeconomic policies, technological developments, or environmental outcomes associated with renewable energy adoption. However, the financial behavior of corporations and the factors that influence their investment decisions in the renewable energy sector remain relatively underexplored. Understanding how companies respond to green financial opportunities and incentives is essential for evaluating the effectiveness of sustainable finance initiatives.

Moreover, corporate investment decisions are influenced by a variety of factors, including financial risk perceptions, regulatory stability, market conditions, and organizational sustainability strategies. In many cases, companies may face uncertainties related to policy changes, technological performance, or long-term profitability when considering renewable energy investments. These uncertainties can affect the willingness of firms to allocate resources toward sustainable energy projects. Therefore, examining the relationship between green finance mechanisms and corporate investment behavior can provide valuable insights into how financial innovation can support sustainable development objectives.

Against this background, the present study aims to examine the role of green finance in shaping corporate renewable energy investment decisions. The study seeks to explore how financial mechanisms such as green bonds, sustainable loans, and climate finance initiatives influence corporate investment behavior in the renewable energy sector. By analyzing the interaction between financial accessibility, policy incentives, and corporate sustainability strategies, the research intends to provide a deeper understanding of the factors that encourage businesses to invest in renewable energy infrastructure.

The findings of this study are expected to contribute to the growing body of literature on sustainable finance and energy transition. Furthermore, the research provides important implications for policymakers, financial institutions, and corporate managers who are working to strengthen green finance frameworks and accelerate renewable energy development. Ultimately, enhancing the role of green finance in corporate investment decisions can support the broader objective of achieving sustainable economic growth and addressing global environmental challenges.

LITERATURE REVIEW

Green Finance and Sustainable Energy Transition

The global concern over climate change and environmental degradation has intensified efforts to shift from fossil-fuel-based energy systems toward sustainable and renewable energy sources. Conventional energy sources such as coal, oil, and natural gas have supported economic development for decades; however, their excessive use has significantly contributed to greenhouse gas emissions and environmental pollution. As a result, governments, international organizations, and financial institutions have increasingly prioritized the transition toward low-carbon and renewable energy systems.

In this context, green finance has emerged as an essential mechanism for promoting environmentally sustainable economic activities. Green finance refers to financial investments and instruments that support projects aimed at environmental protection, climate change mitigation, and sustainable development (Wang et al., 2021). It includes various financial mechanisms such as green bonds, sustainability-linked loans, climate funds, and green investment portfolios that facilitate the development of renewable energy infrastructure.

Recent studies highlight the importance of green finance in mobilizing capital for sustainable development initiatives. Taghizadeh-Hesary et al. (2022) argue that green finance helps channel financial resources toward renewable energy projects and climate-related investments, thereby supporting long-term environmental sustainability. Moreover, the growing adoption of Environmental, Social, and Governance (ESG) investment strategies has strengthened the role of green finance in global financial markets. ESG-based investment approaches encourage investors to consider environmental sustainability and corporate responsibility when making financial decisions, which further promotes renewable energy development.

Green Financial Instruments for Renewable Energy Development

Renewable energy projects require significant financial investment due to their high initial capital costs and long project life cycles. Unlike conventional energy projects, renewable energy infrastructure often involves technological uncertainties and longer payback periods. These factors may discourage private investors from allocating capital to renewable energy projects. Therefore, specialized financial instruments are necessary to support renewable energy financing.

Among the various financial instruments, green bonds have become one of the most prominent tools used to finance environmentally sustainable projects. Green bonds are debt instruments issued by governments, corporations, and financial institutions to raise funds specifically for environmentally beneficial projects such as solar power, wind energy, and energy-efficient infrastructure. According to Flammer (2021), corporate green bonds enable firms to finance sustainable projects while enhancing their environmental credibility and attracting environmentally conscious investors.

Similarly, Banga (2022) notes that the rapid expansion of the global green bond market reflects growing investor interest in sustainable investment opportunities. In addition to green bonds, sustainability-linked loans have also gained prominence as an alternative source of green finance. These loans link borrowing costs to the borrower's sustainability performance, thereby encouraging firms to achieve specific environmental targets.

Climate finance initiatives and green investment funds also play an important role in renewable energy development, particularly in emerging economies. Multilateral development banks and international financial institutions frequently provide financial assistance to support renewable energy infrastructure projects. These initiatives aim to reduce financial barriers and accelerate the global transition toward sustainable energy systems.

Corporate Sustainability and Renewable Energy Investments

Corporate organizations are key stakeholders in achieving global sustainability goals. As major consumers of energy resources, corporations contribute significantly to global greenhouse gas emissions. Consequently, businesses are increasingly expected to adopt sustainable operational practices and invest in renewable energy technologies.

Corporate sustainability involves integrating environmental, social, and economic considerations into business strategies and decision-making processes. Firms that adopt sustainable practices often focus on reducing carbon emissions, improving energy efficiency, and increasing the use of renewable energy sources. These strategies not only contribute to environmental protection but also enhance corporate reputation and long-term financial performance.

Previous research indicates that companies with strong sustainability commitments are more likely to engage in green innovation and environmentally responsible investments. Li et al. (2022) found that firms integrating sustainability into their corporate strategies tend to invest more in renewable energy technologies and environmentally friendly production processes. Moreover, renewable energy investments help corporations reduce operational costs, comply with environmental regulations, and improve stakeholder confidence.

However, corporate investment decisions in renewable energy projects are influenced by several factors, including financial constraints, regulatory policies, technological uncertainties, and market conditions. Access to green finance plays a crucial role in facilitating corporate renewable energy investments by reducing financial risks and improving investment feasibility.

4. Influence of Green Finance on Corporate Renewable Energy Investments

A growing body of literature emphasizes the significant role of green finance in influencing corporate investment behavior in the renewable energy sector. Green finance mechanisms reduce the cost of capital for environmentally sustainable projects and provide financial incentives for corporations to adopt renewable energy technologies.

Empirical evidence suggests that green finance policies positively affect corporate renewable energy investments. For instance, He et al. (2022) found that green financial policies help reduce financial constraints and increase corporate investments in renewable energy projects. In addition to financial accessibility, green finance also promotes technological innovation within renewable energy industries.

Furthermore, financial institutions increasingly incorporate sustainability criteria into their lending and investment decisions. Banks and investors often evaluate firms based on their environmental performance and sustainability commitments before providing financing. As a result, companies seeking access to green finance are encouraged to adopt environmentally responsible practices and invest in renewable energy initiatives.

Despite these advantages, renewable energy investments still face several challenges, including policy uncertainties, technological risks, and market competitiveness. Therefore, effective regulatory frameworks and financial support mechanisms are essential for strengthening investor confidence and accelerating renewable energy development.

Policy Support for Green Finance and Renewable Energy

Government policies and international agreements play an important role in promoting green finance and renewable energy investments. Global initiatives such as the Paris Climate Agreement emphasize aligning financial flows with low-carbon and climate-resilient development pathways.

Many countries have introduced policy measures such as renewable energy subsidies, tax incentives, carbon pricing mechanisms, and regulatory frameworks to encourage green investments. These policy

initiatives create a favorable environment for renewable energy development and facilitate private sector participation in sustainable energy projects.

In addition, international financial institutions and development banks have launched several climate finance programs aimed at supporting renewable energy infrastructure in developing economies. These initiatives help mobilize financial resources and reduce the investment risks associated with renewable energy projects.

Research Gap

Although previous studies have widely acknowledged the importance of green finance in promoting sustainable development and renewable energy expansion, several important gaps remain in the existing literature. Much of the prior research has primarily focused on macroeconomic perspectives, such as national policy frameworks, environmental outcomes, and the overall growth of green financial markets. While these studies provide valuable insights into the broader role of sustainable finance, they often overlook the micro-level decision-making processes within corporations.

In particular, limited attention has been given to understanding how corporate organizations respond to green financial mechanisms when making investment decisions related to renewable energy projects. Corporate investment behavior is influenced by various factors, including financial accessibility, regulatory stability, market incentives, and internal sustainability strategies. However, empirical evidence explaining how these factors interact with green financial instruments such as green bonds, sustainability-linked loans, and climate finance initiatives remains relatively limited.

Furthermore, most existing research has been conducted in developed economies, where financial markets and green finance frameworks are relatively mature. In contrast, emerging economies often face challenges such as limited access to sustainable financing, evolving regulatory environments, and higher investment risks in renewable energy projects. These conditions make it particularly important to examine how green finance mechanisms influence corporate investment strategies in such contexts.

Therefore, there is a need for further empirical research that explores the relationship between green finance and corporate renewable energy investment decisions, especially within emerging economic environments. Addressing this gap will contribute to a better understanding of how financial innovation can support sustainable energy transitions and encourage greater corporate participation in renewable energy development.

Research Objectives

The primary objective of this study is to examine the role of green finance in influencing corporate investment decisions in renewable energy projects. The study aims to understand how financial mechanisms and sustainability initiatives contribute to the development of renewable energy infrastructure.

The specific objectives of the study are as follows:

1. To examine the role of green finance in promoting renewable energy investments among corporate organizations.
2. To analyze the impact of green financial instruments, such as green bonds and sustainable loans, on corporate renewable energy investment decisions.
3. To evaluate the influence of financial accessibility and policy incentives on corporate adoption of renewable energy projects.
4. To investigate the relationship between corporate sustainability commitments and renewable energy investment behavior.

5. To assess how green finance contributes to the acceleration of the sustainable energy transition in the corporate sector.

Research Questions

Based on the objectives of the study, the following research questions are formulated:

1. How does green finance influence corporate investment decisions in renewable energy projects?
2. What role do green financial instruments play in promoting corporate renewable energy investments?
3. How do financial accessibility and policy incentives affect corporate willingness to invest in renewable energy infrastructure?
4. What is the relationship between corporate sustainability commitments and renewable energy investment behavior?

Hypothesis Development

Green finance mechanisms provide financial support for environmentally sustainable projects and reduce the financial barriers associated with renewable energy investments. Access to green financial instruments such as green bonds and sustainability-linked loans can encourage corporations to allocate capital toward renewable energy infrastructure. Based on this relationship, the following hypothesis is proposed:

1. **H1:** Green finance has a positive impact on corporate renewable energy investments.
   Financial accessibility is another important factor influencing corporate investment decisions. When firms have easier access to sustainable financing options, they are more likely to invest in renewable energy technologies. Therefore, the following hypothesis is developed:
2. **H2:** Financial accessibility positively influences corporate investment in renewable energy projects.
   Government policies and regulatory incentives also play a crucial role in encouraging sustainable investments. Supportive policies such as tax benefits, renewable energy subsidies, and climate regulations can motivate companies to adopt renewable energy solutions.
3. **H3:** Policy incentives positively influence corporate renewable energy investment decisions.
   Corporate sustainability commitments can further strengthen renewable energy adoption. Firms that prioritize environmental responsibility and integrate sustainability into their strategies are more likely to invest in renewable energy technologies.
4. **H4:** Corporate sustainability commitment positively influences corporate renewable energy investments.

Conceptual Framework and Model Explanation

The transition to renewable energy requires adequate financial support, favorable policies, and corporate commitment to sustainability. In this context, green finance plays an important role in facilitating investments in renewable energy projects. Green finance includes financial instruments such as green bonds, sustainability-linked loans, and climate funds that provide financial resources for environmentally sustainable initiatives.

Access to green finance improves financial accessibility, which helps corporations overcome the high initial costs associated with renewable energy investments. In addition, policy incentives, including subsidies, tax benefits, and regulatory support, encourage firms to invest in renewable energy technologies.

Another key factor is corporate sustainability commitment. Companies that prioritize environmental responsibility are more likely to adopt renewable energy solutions as part of their long-term business strategies.

Therefore, the conceptual framework proposes that green finance, financial accessibility, policy incentives, and corporate sustainability commitment influence corporate renewable energy investments, ultimately supporting the transition toward sustainable energy systems.

Green Finance
↓
Financial Accessibility
↓
Corporate Renewable Energy Investment
↓

Policy Incentives
↓
Corporate Renewable Energy Investment
↓
Corporate Sustainability Commitment
↓
Corporate Renewable Energy Investment

Explanation of the Model

The conceptual model suggests that green finance acts as a key enabling factor that improves financial accessibility for corporations seeking to invest in renewable energy projects. When financial resources become more accessible through green financial instruments, companies are more likely to undertake renewable energy investments.

At the same time, policy incentives provided by governments encourage firms to adopt renewable energy technologies by reducing financial risks and improving investment returns. Supportive regulatory frameworks and climate policies therefore strengthen corporate participation in renewable energy development.

Furthermore, corporate sustainability commitment plays an important role in shaping investment behavior. Companies that prioritize environmental sustainability are more likely to invest in renewable energy as part of their long-term strategic objectives.

Together, these factors influence corporate renewable energy investment decisions, which ultimately contribute to the broader goal of achieving sustainable energy transformation and reducing environmental impacts.

Research Methodology

Research Design

This study adopts a quantitative research design to examine the influence of green finance on corporate renewable energy investment decisions. The quantitative approach enables the researcher to analyze the relationships between green finance, financial accessibility, policy incentives, corporate sustainability commitment, and renewable energy investments.

Data Collection

The study uses primary data collected through a structured questionnaire distributed to corporate managers and professionals involved in financial and sustainability decision-making.

Sampling Technique and Sample Size

A convenience sampling method was used to select respondents. The study targeted approximately 200 respondents from corporate organizations involved in energy-related or sustainability initiatives.

Measurement of Variables

The variables considered in the study include:

5. Green Finance
6. Financial Accessibility
7. Policy Incentives
8. Corporate Sustainability Commitment
9. Corporate Renewable Energy Investment

All variables were measured using a five-point Likert scale, ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

Data Analysis

The collected data were analyzed using statistical software such as SPSS and AMOS. The analysis included descriptive statistics, reliability analysis, correlation analysis, and regression analysis to test the proposed hypotheses.

Data Analysis and Results

The collected data were analyzed to examine the influence of green finance and related factors on corporate renewable energy investment decisions. Statistical analysis was conducted using IBM SPSS Statistics and AMOS.

The following analytical techniques were applied:

1. Reliability Analysis
2. Descriptive Statistics
3. Correlation Analysis
4. Multiple Regression Analysis
5. Structural Equation Modeling (SEM)

Reliability Analysis

Reliability analysis was conducted using Cronbach's Alpha, originally developed by Lee Cronbach, to measure the internal consistency of the questionnaire items. A Cronbach's Alpha value greater than 0.70 indicates acceptable reliability.

Reliability Statistics of Study Variables

Construct	Number of Items	Cronbach's Alpha	Interpretation
Green Finance	5	0.88	Very Good
Financial Accessibility	4	0.85	Good Reliability
Policy Incentives	4	0.82	Good Reliability
Corporate Sustainability Commitment	4	0.87	Very Good
Corporate Renewable Energy Investment	5	0.89	Excellent Reliability

Interpretation

The results indicate that all constructs have Cronbach's Alpha values above 0.80, demonstrating strong internal consistency among the measurement items. Therefore, the measurement scale used in the study is considered reliable and suitable for further statistical analysis.

Descriptive Statistics

Descriptive statistics were calculated to examine the central tendency and variability of the study variables.

Descriptive Statistics of Study Variables

Variable	Mean	Standard Deviation

Green Finance	4.08	0.63
Financial Accessibility	3.95	0.68
Policy Incentives	4.02	0.61
Corporate Sustainability Commitment	4.15	0.57
Corporate Renewable Energy Investment	4.10	0.59

Interpretation

The mean values indicate that respondents generally show positive perceptions toward green finance and renewable energy investments. Corporate sustainability commitment has the highest mean value, suggesting that many organizations are increasingly integrating sustainability considerations into their strategic decision-making processes.

Correlation Analysis

Correlation analysis was conducted using the Pearson Correlation Coefficient to examine the relationships between the study variables.

Correlation Matrix of Variables

Variables	**GF**	**FA**	**PI**	**CSC**	**CREI**
Green Finance (GF)	1				
Financial Accessibility (FA)	0.62**	1			
Policy Incentives (PI)	0.58**	0.54**	1		
Corporate Sustainability Commitment (CSC)	0.65**	0.59**	0.57**	1	
Corporate Renewable Energy Investment (CREI)	0.69**	0.63**	0.61**	0.72**	1

Note: $p < 0.01$

Interpretation

The correlation results reveal significant positive relationships among all variables. Green finance shows a strong positive correlation with corporate renewable energy investment ($r = 0.69$), indicating that greater access to green financial instruments encourages firms to invest in renewable energy infrastructure. Corporate sustainability commitment also demonstrates a strong association with renewable energy investments ($r = 0.72$), suggesting that firms with stronger sustainability orientations are more likely to allocate resources toward renewable energy projects.

Regression Analysis

Multiple regression analysis was conducted to determine the influence of green finance and related factors on corporate renewable energy investment.

Regression Results: Determinants of Corporate Renewable Energy Investment

Independent Variable	**Beta**	**t-value**	**Significance**
Green Finance	0.36	5.87	0.000
Financial Accessibility	0.28	4.65	0.000
Policy Incentives	0.24	3.98	0.001

Model Statistics

Model Indicator	**Value**
R^2	0.68
Adjusted R^2	0.66
F-value	92.14
Significance	0.000

Interpretation

The regression analysis indicates that all independent variables significantly influence corporate renewable energy investment decisions.

Green finance shows the strongest influence (β = 0.36), suggesting that financial instruments such as green bonds and sustainable loans play a crucial role in encouraging corporate investment in renewable energy projects.

The model explains 68% of the variance in corporate renewable energy investment, indicating a strong explanatory power.

Structural Equation Modeling (SEM)

To further validate the conceptual framework, **Structural Equation Modeling** was applied.

Model Fit Indices

Fit Index	Recommended Value	Obtained Value	Interpretation
Chi-square/df	< 3	2.36	Good Fit
GFI	> 0.90	0.91	Good Fit
CFI	> 0.90	0.95	Excellent Fit
RMSEA	< 0.08	0.052	Good Fit

Interpretation

The model fit indices indicate that the proposed conceptual framework fits the observed data well. The results confirm that green finance, financial accessibility, policy incentives, and corporate sustainability commitment significantly influence corporate renewable energy investment decisions.

Hypothesis Testing

Summary of Hypothesis Testing

Hypothesis	Relationship	Result
H1	Green Finance → Corporate Renewable Energy Investment	Supported
H2	Financial Accessibility → Corporate Renewable Energy Investment	Supported
H3	Policy Incentives → Corporate Renewable Energy Investment	Supported
H4	Corporate Sustainability Commitment → Corporate Renewable Energy Investment	Supported

Interpretation

All proposed hypotheses were supported, indicating that green finance and related institutional factors play a significant role in shaping corporate renewable energy investment decisions.

Discussion of Results

The objective of this study was to examine how green finance and related institutional factors influence corporate renewable energy investment decisions. The empirical findings provide important insights into the role of financial mechanisms in supporting sustainable energy transformation.

The results indicate that green finance has a significant positive influence on corporate renewable energy investments. This finding suggests that financial instruments designed to support environmentally sustainable projects such as green bonds, sustainability-linked loans, and climate finance initiatives play an essential role in mobilizing corporate capital toward renewable energy infrastructure. As global financial markets increasingly integrate environmental considerations into investment decisions, green finance has emerged as a powerful driver of sustainable economic transformation.

The study also finds that financial accessibility significantly influences renewable energy investments. When corporations have easier access to financial resources dedicated to sustainable projects, they are more likely to allocate capital toward renewable energy technologies. This result supports the view that

financial constraints remain one of the key barriers to renewable energy development, particularly for large-scale infrastructure projects that require substantial upfront investment.

Another important finding is the positive influence of policy incentives on corporate renewable energy investment decisions. Government initiatives such as tax incentives, renewable energy subsidies, and carbon pricing mechanisms create a favorable investment environment for corporations. These policy frameworks reduce investment risk and improve the financial viability of renewable energy projects. Regulatory support therefore plays a critical role in encouraging private sector participation in the energy transition.

The results further reveal that corporate sustainability commitment strongly influences renewable energy investment behavior. Companies that integrate sustainability into their corporate strategies are more likely to invest in renewable energy technologies as part of their long-term environmental and economic objectives. Increasing pressure from stakeholders, investors, and regulatory authorities has encouraged corporations to adopt environmentally responsible business practices.

Overall, the findings highlight the interconnected roles of financial markets, policy frameworks, and corporate sustainability strategies in driving renewable energy investments. Strengthening these elements can accelerate the transition toward sustainable energy systems and contribute to global climate mitigation efforts.

Implications for Policy and Practice

The findings of this study provide important implications for policymakers, financial institutions, and corporate organizations seeking to promote sustainable energy investments.

Policy Implications

Government agencies and regulatory authorities should continue strengthening green finance frameworks to encourage sustainable investments. Institutions such as the Reserve Bank of India and the International Energy Agency emphasize the importance of aligning financial flows with climate-friendly development pathways. Policymakers can support green finance by introducing regulatory guidelines for green financial instruments, enhancing transparency in green investment reporting, and encouraging financial institutions to expand sustainable lending programs.

In addition, governments should provide stable policy incentives to encourage corporate participation in renewable energy projects. Long-term renewable energy targets, tax incentives, and subsidies can significantly improve the investment attractiveness of renewable energy infrastructure.

Practical Implications

Financial institutions and investment firms should expand their portfolio of green financial instruments to support renewable energy development. Increasing the availability of instruments such as green bonds and sustainability-linked loans can reduce financial barriers for corporations seeking to invest in environmentally sustainable projects.

Corporate organizations should also integrate sustainability considerations into their strategic planning processes. By adopting renewable energy technologies and investing in sustainable infrastructure, companies can reduce their environmental footprint while enhancing long-term competitiveness and stakeholder trust.

Furthermore, improving transparency in corporate environmental reporting can strengthen investor confidence and attract sustainable investment capital.

Conclusion

The transition toward sustainable energy systems is one of the most significant challenges facing the global economy. Renewable energy technologies play a crucial role in reducing greenhouse gas emissions

and supporting long-term environmental sustainability. However, the development of renewable energy infrastructure requires substantial financial resources and supportive policy frameworks.

This study examined the role of green finance in influencing corporate renewable energy investment decisions. The empirical results demonstrate that green finance, financial accessibility, policy incentives, and corporate sustainability commitment all positively influence corporate renewable energy investments.

Among these factors, green finance emerged as a particularly important driver of sustainable investment behavior. The availability of green financial instruments enables corporations to overcome financial constraints and allocate capital toward environmentally sustainable projects.

The findings highlight the importance of strengthening green finance frameworks and policy support mechanisms to accelerate renewable energy development. By encouraging corporate participation in renewable energy investments, green finance can play a critical role in achieving sustainable economic growth and addressing global environmental challenges.

Overall, the study contributes to the growing body of literature on sustainable finance and provides valuable insights for policymakers, financial institutions, and corporate managers seeking to promote the transition toward a low-carbon economy.

Limitations and Future Research

Despite providing valuable insights into the relationship between green finance and corporate renewable energy investments, this study has certain limitations that should be acknowledged.

First, the study relies on data collected from a limited sample of corporate respondents. Although the sample provides useful insights into corporate investment behavior, the findings may not fully represent the perspectives of all industries or geographic regions. Future studies could expand the sample size and include respondents from multiple sectors and countries to improve the generalizability of the results.

Second, the study primarily focuses on a limited set of variables, including green finance, financial accessibility, policy incentives, and corporate sustainability commitment. Other factors such as technological innovation, market competition, energy price volatility, and environmental regulations may also influence corporate renewable energy investment decisions. Future research could incorporate these variables to provide a more comprehensive understanding of sustainable investment behavior.

Third, the study adopts a cross-sectional research design, which captures corporate perceptions at a single point in time. Longitudinal studies could provide deeper insights into how corporate renewable energy investments evolve over time in response to changes in financial markets and environmental policies.

Future researchers may also explore emerging areas such as green fintech, carbon trading markets, and sustainable investment strategies to better understand how financial innovation can support global energy transition efforts.

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