(Appendix-A1)

The Impact of FDI Inflows and Political Instability on Renewable Energy Growth: The Mediating Role of Energy Policy and Moderating Role of Inflation Rate

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"The Impact of FDI Inflows and Political Instability on Renewable Energy Growth: The Mediating Role of Energy Policy and Moderating Role of Inflation Rate"

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Abstract

The transition toward renewable energy in emerging economies requires substantial investment, policy support, and institutional stability. Foreign Direct Investment (FDI) plays a vital role in financing renewable energy projects; however, its effectiveness is often constrained by political instability and macroeconomic volatility. This study investigates the impact of FDI inflows and political instability on renewable energy growth, examining the mediating role of energy policy and the moderating role of inflation. Using panel data from Brazil, Russia, India, China, and Iran over the period 2010–2020, the study employs fixed-effects and random-effects regression models to control for country-specific and time-specific heterogeneity. Renewable energy growth is measured through installed renewable energy capacity, while political instability, inflation, and energy policy indicators are incorporated as key explanatory variables. Mediation and moderation analyses are conducted to assess indirect and conditional effects. The empirical results indicate that FDI inflows have a positive and statistically significant impact on renewable energy growth, highlighting the importance of foreign capital and technology transfer. Political instability negatively affects renewable energy development by increasing uncertainty and discouraging long-term investment. Energy policy is found to significantly mediate the relationship between FDI and renewable energy growth, suggesting that stable and supportive policy frameworks enhance the effectiveness of foreign investment. Inflation emerges as a significant moderating variable, weakening the positive impact of FDI and energy policy by raising project costs and reducing investment returns. The findings underscore the importance of political stability, sound energy policies, and macroeconomic control in attracting FDI and promoting renewable energy expansion. The study offers valuable policy implications for emerging economies seeking to accelerate their transition toward sustainable and low-carbon energy systems.

Keywords: Foreign Direct Investment, Renewable Energy Growth, Political Instability, Energy Policy, Inflation, Emerging Economies.

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CHAPTER 1: INTRODUCTION

1.1 Background of the Study

Foreign Direct Investment (FDI) is one of the resources promoting sustainable growth of the economy, and in the field of renewable energy, specifically. In most cases, developing countries, especially the BRIC countries, have a significant capital limitation which restricts their capacity to establish renewable energy facilities. To address this gap, FDI may contribute with the necessary capital, technological skills and market opportunities that are critical to the development of the renewable energy industry (Zhang et al., 2021). The foreign investors provide the resources that are needed in the development of the renewable energy sources such as wind, solar and hydropower plants. Such investments may also enable the mobility of innovative technologies, high-end equipment and management practices that are essential in the development of a competitive and sustainable energy market. Research has indicated that a country which receives a high FDI rate is usually the one that realizes faster development in its renewable energy sector, which also leads to a faster rate of moving to a low-carbon economy. Nonetheless, FDI is fundamental in the development of renewable energy; nevertheless, the inflows are very prone to external shocks, including political instability and economic uncertainty.

One of the greatest reasons behind foreign investors not willing to venture into a country is political instability; this is particularly true in industries where there is a lot of long-term investment, like renewable energy. Political instability can be defined as a change in government, civil conflict, unpredictability in policies and social conflict. All these build up to a state of uncertainty, and thus it becomes difficult to determine risks properly and commit financial resources in the long term by foreign investors. In places where the political climate is uncertain, the probability of expropriation, the sudden shift in the energy policy, and the lack of regulation becomes high, and thus makes the market less appealing to FDI (Dong et al., 2025). The other factor that might influence the consistency of energy policies is political instability, since this is paramount in developing renewable energy projects. As an example, in those countries where the political leadership is periodically changed, the policies regarding renewable energy might not be maintained, which results in the delay of the project implementation or even the abrupt termination of the investments in the energy sphere. Therefore, political instability tends to negatively affect

the confidence of investors, leading to a decline in FDI inflows, which tend to have a direct effect on the ability of the nation to shift to renewable energy.

Energy policy is key in the mediation of FDI and renewable energy development. The energy policy in a country dictates the structure to be followed in the renewable energy industry in regard to incentives, subsidies, tax exemptions and regulatory provisions that are to support the development of renewable energy. Having effective energy policies can help create a conducive environment for foreign investments, especially in the renewable energy sector, by putting clear and constant regulations that are very positive to any investments. Political instability risks can also be reduced by implementing policies that aid in the development of renewable energy, which will give foreign investors confidence that their investments are safe (Caetano et al., 2022). Indicatively, policies by the government on renewable energy that are long-term and have specific targets and enabling financial systems like feed-in tariffs or tax breaks, help to make the sector more appealing to investors. Additionally, energy policies which aim at incorporating renewable energy in the national energy grids, energy security and carbon-cutting targets will give investors confidence in the long-term sustainability of their investments.

FDI not only bring in money, but also knowledge and highly sophisticated technology. Renewable energy can only be efficient and cost-effective through technological innovation. FDI can be used to introduce advanced technologies in the solar, wind, hydroelectric and geothermal energy generation that can make energy production more efficient and sustainable. In most of the developing countries, foreign investors not only bring money, but also technical know-how and machinery to carry out massive renewable energy projects. In addition, the foreign companies are usually experienced and knowledgeable enough to handle the complicated renewable energy projects that can greatly enhance the success of the projects. This transfer of technology is capable of boosting the entire potential of the renewable energy sector in the host country to grow and create sustainability in the sector. Nonetheless, the level of technological transfer is subject to the energy policy and political stability of the country, which may either speed up or slow down the influx of the said technologies.

One such macroeconomic variable that may affect the FDI inflows and renewable energy sector development is inflation. A high inflation rate is likely to depreciate returns on investments in the future, hence making foreign investments unattractive. The profitability of renewable energy

projects may be influenced by inflation, as the costs of inputs to the projects, including labour, raw materials, and energy prices, may decrease owing to inflation and consequently the total financial returns of such projects (Gakuru et al., 2025). The highly volatile inflation rate may cause a rise in the cost of financing renewable energy projects in countries where the inflation is high, and thus the foreign investor risks may rise. Moreover, the competitiveness of the domestic renewable energy companies can also be influenced by inflation because of the increased costs, the local business may not compete with the international ones. Inflation is also high, and this decreases the purchasing power of the consumer, which may also affect the demand for renewable energy products and services, thus deteriorating FDI. The purpose of the research is to investigate the mediating aspect of the political instability on the relationship between FDI and renewable energy growth, as well as the inflation factor in either enhancing or retarding the inflow of investments in renewable energy sectors.

Political stability, inflation and FDI have a complex relationship where each of them affects the others. The negative impacts of inflation can be tamed by political stability, as it offers a more foreseeable business environment and vice versa, since inflation may compound the burden of political instability by raising the cost of doing business. The politically stable countries are also likely to be characterized by a low rate of inflation and, consequently, the risks linked with investment are low. Conversely, high rates of inflation tend to increase the political unrest in the countries, and this increases the difficulties that foreign investors are exposed to. Political unrest, coupled with soaring inflation rates, may provide a very shaky investment atmosphere, which discourages the flow of FDI and provides a sluggish response to renewable energy development efforts. Part of these difficulties can be mitigated with the help of energy policies that would both combat inflation and political instability and make renewable energy investments a more predictable and stable environment.

Another factor that is critical in inflows of FDI and renewable energy development is economic policy uncertainty. The economic policies that are not predictable in countries tend to have low rates of foreign investment because investors are not willing to invest in situations where they do not know what will happen in the future (Seyoum & Ramirez, 2019). This uncertainty may be experienced in the renewable energy industry in the form of sudden amendments to energy tariffs, alterations in subsidy programs or sudden changes in regulations, which may change the

economic viability of renewable energy initiatives. Foreign investors are not able to measure long-term profitability and risks, as the changes in policy are unpredictable, so the willingness to invest in renewable energy projects decreases. Thus, the uncertainty of economic policies may cause a massive setback to the renewable energy sector development, particularly in those countries that use FDI as the primary source to fund renewable energy projects. These risks can be minimized by providing clear and stable energy policy frameworks to combat policy uncertainty and to generate even more conducive renewable energy investment conditions.

Renewable energy should be attracted in political stability where long-term investment and economic growth are involved. Consistent political environments promote the provision and enactment of uniform energy policies that facilitate the development of the renewable energy sectors by the government. In the example of political stability, governments are then able to implement long-term energy policies that give clear insights and signals to investors in the renewable energy market (Dong et al., 2025). Investors of the aforementioned countries will have more confidence to invest in a large-scale renewable energy project since they are assured that their investment will not be compromised by changes in the government or policy. Political stability also helps in the formulation of legal and regulatory systems, which safeguard the interests of the foreign investors, making the renewable energy industry even more attractive. The proposed research will seek to understand the degree to which political stability determines the inflow of FDI into the renewable energy markets, especially in the countries that experience severe difficulties in appealing to sustainable investment.

The developing nations, especially those in the South Asian and African region, have to grapple with a lot of issues pertaining to political instability, which might be an obstacle that prevents the attraction of FDI in the form of renewable energy projects. The key feature of these countries is that they have problems with frequent transitions of the governments, political instability, corruption, and an imperfect legal system that makes the business climate unstable towards foreign investors. The way to overcome these challenges is to ensure that governments concentrate on politically empowering political institutions, transparency and ensuring a more predictable and stable policy environment. These countries can be made more attractive to foreign investors by enhancing the quality of governance and reducing political risks, thus raising FDI inflows to the renewable energy sector. Such countries can use FDI to develop sustainable energy

with the help of energy policies that encourage long-term investments in renewable energy and attempts at mitigating political instability (Nauman et al., 2024).

1.2 Problem Statement

The transition to renewable energy in developing countries is often hindered by political instability and economic uncertainty, which can deter foreign direct investment (FDI), crucial for financing energy projects. While FDI can drive growth in renewable energy, its effectiveness is influenced by the stability of political environments and energy policies. Moreover, inflation can further complicate this relationship by impacting investment returns and project viability. Understanding how these factors interact is critical for designing policies that can attract FDI and promote sustainable energy development.

1.3. Objectives of the Study

- To assess how political instability impacts FDI inflows in the renewable energy sector.
- To evaluate the mediating role of energy policies between FDI and renewable energy growth.
- To investigate the moderating role of inflation, FDI, and political instability on Renewable Energy growth.

1.4 Research Questions

- How does political instability influence FDI inflows in the renewable energy sector?
- What is the role energy policies in fostering renewable energy growth through FDI?
- What is the impact of FDI and political instability on Renewable Energy Development?

1.5 Significance of the Study

What makes the study so important is that it has provided an insight into the intricate nature of Foreign Direct Investment (FDI), political instability, energy policy and renewable energy development, and most particularly in the context of developing countries. The move towards sustainable sources of energy in the world in recent years has focused attention on the need to comprehend the forces that lead to or create obstacles in investing in renewable energy. This study is especially useful since it adds to the scarcity of knowledge regarding the effects of political instability on the inflows of FDI and, in turn, on the development of renewable energy industries. This study brings a subtle insight by investigating the moderating factor of inflation and the

mediating factor of the energy policy in the interaction between economic variables as a stimulus to the successful renewable energy transition or as a negative factor. Research has shown that FDI plays a vital role in increasing the use of clean energy technologies faster, but it is usually bottlenecked in politically unstable regions (Dong et al., 2025). Hence, this study provides a timely contribution of structural and policy reforms to facilitate more appealing investment environments, as one of the key elements of sustainable development objectives, especially in the BRIC countries, in which renewable energy marketplaces are developing at a high pace (Zhang et al., 2021).

The fact that the research has concentrated on the mediating Impact of energy policy is further increased by its importance as it seeks to understand how the government strategies can be used to mitigate the negative impacts of political instability on FDI inflows. Policies by encouraging investment in renewable energy should encourage stability in the renewable energy market by providing tax breaks, subsidies and long-term contracts, which will encourage foreign investors into the market. This study highlights the relevance of coming up with strong and transparent energy policies that would enable the provision of a predictable environment by foreign investors, particularly in politically volatile areas where changes in policy are the norm. Caetano et al. (2022) explain that the appropriate policy frameworks are critical to directing FDI into sectors related to green sectors, which is dual in nature in both economic development and environmental sustainability. In this regard, this research is pivotal to policymakers in the emerging economies as it defines avenues under which political stability and energy policy can be used to channel foreign investment into renewable energy, which will lead to economic and environmental sustainability.

Moreover, this study is important in its implementation of the global shift to a green economy. The growing necessity to fight climate change demands a concerted effort to move to renewable energy, and FDI plays an important facilitating role in the shift. By clarifying the obstacles posed by political instability and inflation on FDI in renewable energy markets, the countries can be informed on how to ensure that their investment climate is better and the renewable energy sectors grow. The moderating effect of inflation, as discussed in earlier works (Gakuru et al., 2025), further gives this study more meaning by demonstrating the potential that inflationary pressures can have in amplifying the difficulties experienced with political instability. Consequently, the research has practical implications to governments, investors and international

organizations that endeavor to develop a sustainable, low-carbon economy by offering measures to curb the risks caused by political suffering, inflation and economic uncertainty in the renewable energy sector.

1.6 Scope of the Study

This research scope will be directed at the comprehension of the correlation between FDI inflows, political instability, and renewable energy development, with the specific attention paid to the input of the energy policy and the moderating role of inflation. This study is designed to offer empirical information of the interaction of these factors in the setting of the developing countries and especially the BRIC countries where the renewable energy sectors are facing a fast change. The paper will target the Brazil, Russian, Indian, Chinese and Iran markets in renewable energy where FDI in renewable energy technologies has been on a sharp rise in the past few years. The analysis of political, economic, and energy policies of these countries is aimed at determining the most important factors that affect FDI flows to the renewable energy industry. With the difference in political instability and inflation rates between these nations, this study will look at the unique influence of these variables on the FDI in the renewable energy markets in each of the countries and the study will provide a comparative analysis of the BRIC countries (Nauman et al., 2024).

The Impact of energy policies on the relation between the FDI inflows and the renewable energy development is also a part of the research scope. The energy policy is a critical area of the research as it acts as a mediator in that it can make or break FDI in renewable energy industries. The paper shall review how the government policies, including the subsidies in renewable energy projects, tax incentives, and the regulations, will help to attract foreign investments. This study will examine the role of energy policies in helping counter challenges brought about by political instability and inflation by looking at alterations in the policy and the impacts of the changes on the confidence of the investors. It will also consider the efficiency of energy policies in establishing a stable environment that can promote a long-term investment in the renewable energy industry (Zhang et al., 2021). This is also one of the most important aspects of the study because it can give governments interested in designing and adopting energy policies that help draw FDI and ensure sustainable development of energy.

1.7. Research Gap

This study is confined to the moderating aspect of inflation in the relations between political instability, FDI, and renewable energy growth. As inflation risks, it can greatly influence the cost base of the renewable energy project, thus rendering it unappealing to the foreign investor particularly in those countries that have erratic inflation rates. In this study, the relationship between inflation and political instability and their impact on the FDI inflows were studied, particularly in those economies where there are high rates of inflationary pressures. The research also sealed a gap in the existing literature since most scholars have not examined the moderating effect of inflation on between FDI and renewable energy without considering the economic impact of inflation on these investments (Gakuru et al., 2025). It is in this regard this study offer an in depth analysis of the various factors that influence the investment in renewable energy in the developing economies to enhance insight on the economic processes that lead to investment choice in clean energy.

1.8 Structure of Thesis

In this chapter 1 Introduction has given a description of the study including the background, problem of the research, objectives, and significance. The Chapter 2 Literature review critically analyzes the past studies regarding the relationship existing between FDI and renewable energy development with specific attention to political instability and energy policies. It examines theoretical models, empirical research and literature gaps, with the role of inflation as a moderating variable being noted. The chapter provides a broad comprehension of the existing state of knowledge, as well as, reasons why the research is necessary. Chapter 3 Research Methodology works on the research design, methodology and data collection methods are discussed in this chapter. Chapter 4 findings of the analysis of the data are represented in this chapter. It employs statistical instruments to examine the influence of political instability, FDI inflows, energy policy and inflation on renewable energy development. The interpretations of the findings are made with respect to the research questions as comparisons made between the BRIC countries. Conclusion and Recommendations chapter gives the conclusion of the findings and explains their implications to the policy makers and investors. It will provide the recommendations to the findings of the study and offer the directions of the future research in the sphere of FDI and renewable energy.

Chapter 2: Literature Review

The chapter on the literature review presents the full analysis of the theoretical and empirical studies that are associated with the influence of Foreign Direct Investment (FDI), political instability, energy policy and inflation on the development of renewable energy. With the world moving towards more environmentally friendly and sustainable energy sources, it is important to know the dynamics between these two important factors to both the policymakers and the investors. FDI is considered an often-tapped driver towards the development of renewable energy, but due to political instability, economic uncertainty and inflationary pressures, its potential is often curtailed. Based on a critical review of literature available, this chapter will attempt to examine the possibility of using energy policies to mediate the impacts of political instabilities and inflation to enable a more favorable atmosphere in which renewable energy investment can occur. This chapter also points out the contribution of institutional factors, policy frameworks and macroeconomic conditions in determining the development of the renewable energy industry by reviewing relevant theories and models.

2.1 The Impact of FDI Inflows on Energy Policy and Renewable Energy

Bergougui and Murshed (2023) studied the spillovers of FDI inflows on output growth among 13 MENA economies regarding aggregate and disaggregated FDI. The researcher used a panel data methodology to evaluate the dissimilar effects of FDI types (greenfield vs. mergers and acquisitions) on economic growth. The results showed that the positive effect of the greenfield FDI, on output growth, is relatively stronger than the effect of merger and acquisition. The authors did, however, recognize the fact that green field investments have more direct effect to job creation and transfer of technology but mergers and acquisitions have the benefit of quicker integration into the domestic market. The methodology employed in the study, which was based on fixed-effects models, enabled the deep examination of the differences in the countries, yet it had its shortcomings referring to the potential of the endogeneity of FDI flows and omission of the informal sectors in the examination. The greatness of this study is that it is capable of isolating the impacts of various FDI types on economic growth, which gives the clear understanding of how FDI can become a driver of the growth. However, it has a serious weakness in that it does not delve deeper into institutional issues, which can also help elaborate the difference in effect of FDI. Sahoo and Dash (2022) examined the dissimilar effects of FDI in exportations of the developing

nations in terms of how the FDI inflows can boost the export performance of an economy. The authors have used panel data regression model to determine that FDI has a positive effect on export performance, especially in those countries that have strong trade policies and other macroeconomic factors. The paper has pointed out that the type of FDI is determined by whether it is market-seeking or efficiency-seeking, which influences the effects of FDI on exports. The strong Energy Policy and Renewable Energy of this study are the extensive coverage that was built in 30 developing countries, as this renders the study very relevant to the role of FDI in export-oriented economies. Nevertheless, the shortcomings of the research are that the study uses aggregate data about FDI where different sectors of FDI are not heterogeneous. The absence of country-case studies also undermines the study to make subtle conclusions on the contextual issues that drive the effect of FDI in regard to export-promotion. A deeper sectoral analysis would have been more insightful on the benefits of various industries on the inflow of FDI.

Ly-My, Le, and Park (2024) also studied the environmental effects of various forms of FDI with an emphasis on the question whether greenfield investment is greener than M&As, mergers and acquisitions. The authors have used cross-country information and employed a difference-in-differences design, the authors made a specific observation that greenfield FDI is positively associated with an improvement in environmental quality, rather than M&As. The research indicates that greenfield investments tend to be more willing to foot in cleaner technologies and environmental practices, and M&As do not always result in any changes in the environmental performance. The methodology has enabled the comparative study of the types of FDI to give a strong framework on the effect of various investment strategies on the environment. One of the most significant weaknesses of the research is that it is innovative and environmentally oriented, which is not covered extensively in the literature on the topic of FDI. The research has however the weaknesses of the likelihood of omitted variable bias especially on those Energy Policy and Renewable Energy that remain not accounted such as differences in host countries regulations and environmental standards that may affect the results. In addition, even though the research is based on a wide sample of countries, it may not be applicable to all countries with differing degrees of environmental laws and their implementation. The researchers of Izadi, Rashid, and Izadi (2022) made an international study on the inflows of FDI and financial channels in the pre-crisis period and the post-crisis period. The authors employed a panel data method in the study of the impact of crisis on the FDI flows, but the emphasis was laid on the financial channels through which the

inflows took place. Their results showed that the inflows of FDI were also very sensitive to financial crises and their inflows were significantly reduced during the post-crisis period. This was specifically observed in the developing countries that were not well exposed to the global financial markets. The strength of the study lies in the fact that it offers a long-term outlook of the global economic shock and its effects on FDI dynamics and the mechanisms involved. One of the weaknesses of the study is that it involves a wide group of countries without focusing on individual countries in terms of their exposure to economic crises and how susceptible they are. Besides, the absence of sectoral analysis limits the study to fail to provide a clear picture of the areas of the economy that are most impacted by fluctuations in FDI during times of crisis.

Bhujabal, Sethi, and Padhan (2024) investigated how the institutional quality has a positive impact on FDI inflows in South Asian and Southeast Asian countries. Based on a cross-country regression model, the research discovered that the quality of institutions in the form of improved property rights, reduced levels of corruption and good governance are important in promoting the inflows of FDI. The study indicated that good institutional environment was critical in attracting FDI particularly in poor institutions in third world countries. The strength of this study is that it is a rigorous study of the institutional factors that are not well investigated in FDI literature. Nevertheless, one of the weaknesses is the general character of the quality indicators of institutional quality adopted which might not capture country-specific institutional issues that might influence FDI inflows. The impact of political instability in these states on altering the impacts of institutional quality on FDI was also not factored in the study. The study by Saleh (2023) was a literature review analysis of the Impacts of economic and financial crises on FDI. The overview summarizes numerous researches and finds that FDI inflows will usually tend to reduce greatly during and following a crisis, especially in economies that are highly reliant on foreign capital in their growth. The paper brings out the fact that crises create a lot of uncertainty, thus making foreign investors to reevaluate their strategies and in most cases to withdraw their investments to the economies that are affected by these crises. One of the strengths of this review is that it has provided a complete review of the existing literature on this topic as well as providing a valuable insight into the way FDI acts in times of economic instability. Nevertheless, the limitation of the study is that it does not provide new empirical findings because it is a secondary research synthesis of an original study. The future study may expand on the study of Saleh by exploring the certain situations of crisis and their effects on FDI in renewable energy industries.

Luu, Nguyen and Nguyen (2025) examined how FDI affects the development of infrastructure especially in developing countries. The relationship between FDI inflows and infrastructure improvement such as energy, transport, and communication networks were determined in a structural equation model in the study. The results showed that FDI plays a great role in terms of development of infrastructure that consequently leads to economic growth and development. One of the strengths of the research is that it is devoted to the indirect benefits of FDI; in particular, it is directed to the sectors on which long-term development depends. The limitations of the study are, however, the fact that the researcher used general categories of infrastructure, not taking into consideration how FDI in certain industries, e.g. renewable energy, could vary in influencing the development of infrastructures. The paper also failed to dwell on the political instability in determining the success of FDI in infrastructure development, which may be crucial in the comprehension of the overall effect of FDI in developing economies.

2.2 Understanding of Political Instability on Renewable Energy Growth

Bergougui and Murshed (2023) have investigated how the FDI inflows spillovers relate to the growth of the economic outputs of 13 MENA economies. Their analysis revealed that FDI can play an important positive role in growth of output, but political instability may reduce their effects creating uncertainty and risk to the foreign investors. This research utilized a panel data analysis methodology that found out that the spillover of greenfield investments (creating new businesses) on output growth increased positively than mergers and acquisitions. Although sufficiently strong, the results of the given study were constrained by its concentration on aggregate FDI flows that made it impossible to investigate the particular relationship between political instability and the renewable energy sector in details. Although the research is useful in the context of the overall economic impact of FDI, it does not specifically focus on energy industries and, in particular, on renewable energy. Moreover, country-specific case studies are not provided, which is a weakness, and the consequences of political instability may differ significantly depending on the local conditions. This critique indicates that FDI inflows have the potential of spurring growth, however, political instability is a major impediment to achieving the gains, particularly in the renewable energy sector. Zheng (2021) evaluated how the market-based economic reforms and FDI inflows in China affected electricity intensity and focused particularly on the energy consumption pattern. The researchers observed that with the market-based reforms, the inflows of FDI rose and this consequently caused an upsurge in the electricity intensity, which is an index of energy consumed

to generate the economic output. This observation indicates that although FDI can experience economic growth, it also has the potential of fueling increased energy consumption, which puts sustainable energy development in question. This quantitative model employed in the study by Zheng was able to correlate the inflows of FDI with the energy consumption by various sector, which demonstrated that the growth of the economy through foreign investments can contribute to the rise in demand of electricity. Nevertheless, the fact that the study is interested in energy intensity, as opposed to growth in renewable energy, specifically restricts the study in terms of being able to capture the specific effect of the FDI in the process of developing renewable energy infrastructure. Moreover, the impact of political instability in determining the energy consumption behavior of foreign investors was not taken into account and this is a serious lapse in the analysis. This criticism implies that political unrest may bring a greater effect on energy use of FDI, it may interrupt the long-term investment planning required to develop green energy which also process relationship between Energy Policy and Renewable Energy.

The article by Gaspareniene et al. (2022) examined the effect of FDI on taxation In the European Union, which focuses on the contribution of FDI inflows to the state budgets. This study is more of a fiscal impact but indirectly it brings out the significance of a stable policy environment in attracting foreign investments which are necessary in the development of renewable energy sectors. The results indicated that FDI has a positive impact on increasing tax revenues, which may be used to invest in environmental friendly development projects, such as renewable energy. The methodology of this study based on comparing EU member states provides useful information on the economic gains accrued to the development of renewable energy by the virtue of political stability and good policy on governance. Nevertheless, the limitation of the study is that the renewable energy is indirectly examined because more emphasis is made on fiscal issues than on the environmental effects of FDI. Moreover, although the study focuses on the part played by FDI in increasing the tax revenues, it fails to look at how political instability can derail the long term investments that should be made in developing renewable energy infrastructure. Political instability may result in discouragement of FDI in energy projects due to the lack of predictability of the fiscal policies, thus preventing the development of renewable energy industry. Yi, Hou, and Zhang (2023) paid attention to the effect of the FDI on manufacturing carbon emissions in China and analyzed the environmental implications of foreign investment in energy-intensive sectors. They have discovered that FDI in the manufacturing industry in China increased the volume of

carbon emissions, the trade-off between economic growth and the environmental sustainability is evident. It is shown that the FDI inflows had a considerable impact on the emissions through the econometric model used in the study that showed that foreign investors in the energy-intensive nature cannot focus on the sustainability of a country especially, in the politically unstable environment when the environmental regulations might be weak or unenforced and unstable. Although the study was helpful in the context of the environmental impact of FDI in the energy industries, its limitations were the fact that it regarded carbon emissions as opposed to the development of renewable energy per se. The methodology too did not consider the confounding effect of political stability in identifying the fact that FDI results in sustainable or unsustainable energy practices. Political instability will make the negative environmental impacts of FDI more pronounced because unpredictable policy environments might not give the incentives required by the investors to switch to green technologies. Such criticism implies that political stability plays a key role in ensuring that FDI plays a positive role in development of renewable energy.

Hintosova (2021) also gave a detailed description and assessment of the inward FDI, examining the effect of political and institutional factors on FDI inflows. This paper has highlighted how the political stability of the countries contributes to the attractiveness of the countries to the foreign investors. It discovered that an established political system with clear legal and regulatory processes will attract more FDI even in areas such as green energy. The strength of the study is that it has thoroughly examined the various Energy Policy and Renewable Energy of FDI, especially, its emphasis on institutional Energy Policy and Renewable Energy. Its weakness, however, lies in its generic nature, that is, it is not dedicated to the renewable energy industry or the energy policy influence on the formation of FDI inflows. Further, the paper did not focus on the direct effect of political instability on renewable energy development and this created a gap in knowledge on how the interference by political instability could impact the sector. This criticism suggests that although political stability is relevant to FDI overall, its particular effect on the investments in renewable energy, in particular in politically unstable countries, deserves more specific studies. The article by Rashid, Ansari, Khan, and Amir (2023) Investigated the effect of FDI and exports on economic growth in India that has an implication on energy development. The paper identified that FDI was an important factor in enhancing economic growth especially in export-oriented sectors though it has not indicated the specific contribution of FDI in the development of renewable energy. According to the results of the study, FDI inflows have the

potential to sustainably develop the economy and the development of infrastructure. The research, however, did not specifically investigate the role of political instability on the inflow of FDI into the renewable energy industry. Also, the use of the aggregate data of FDI also restricted the study to obtain the sector-specific impact of FDI especially in clean energy investments. The main weakness in this study is that there is no explicit emphasis on the role policies on energy can play in mediating the relationship between FDI and renewable energy growth. Political instability may compromise the effectiveness of energy policies and it will be harder to develop sustainable energy through FDI. This indicates that there is need to conduct future studies on how FDI in renewable energy is disrupted by political instability especially in those countries such as India that experience both high degree of instability and rising demands of renewable energy.

In the article by Bruno, Campos, and Estrin (2021), the authors investigated the impact of the European Union (EU) membership on the inflow of foreign investments, which is a valuable contribution to the topic of the influence of political stability in attracting foreign investments. They found out that EU membership has a strong effect of improving the appeal of a country to foreign investors especially in some industries such as renewable energy. The strengths of the study are that it dealt with the EU, which is politically stable and the study clearly illustrated the advantages of institutional integration to FDI inflows. The weaknesses of the study however lie in the fact that it considers EU membership and this is not necessarily applicable in other regions where there is varied degree of political stability. The paper failed to capture the extent to which political instability discourages FDI inflows in industries dealing with renewable energy. This gap raises the issue of the necessity of conducting further studies on the impact of political instability in the non-EU countries on the renewable energy sector, particularly in the countries with volatile political conditions.

2.3 The Mediating Role of Energy Policy

Shi et al. (2023) hypothesized about the mediating power of finance between the resource and energy policies of carbon control, considering in particular the sustainable development in Saudi Arabia. The research was based on a holistic framework to investigate the mediating role played by financial strategies in resource management and energy policy impacts on carbon emission. The authors used a mixed-methodology that incorporated both quantitative analysis of energy consumption data and qualitative analysis of the effects of policies. They found that it was

necessary to align the financial strategies and the energy policies to manage carbon emissions. That the study combines both financial and policy Energy Policy and Renewable Energy is also its strength because it offers a comprehensive perspective of sustainable development. The study limits, however, are that the focus is limited to a small geographical area of Saudi Arabia, which is perhaps not a sufficient reflection of the complexity of the mediation process of energy policies in other developing economies. Political instability is also not directly considered in the study, a factor that can impact the success of energy-related policies in the promotion of long-term renewable energy investments. However, this study provides an important role of finance in mediating the energy policies and their effects on sustainable energy development, and that robust financial infrastructure may increase the effectiveness of the energy policies on lowering carbon footprints. Liu et al. (2022) investigated the financial effect of energy efficiency and energy policy-oriented at reforming the power sector with the mediating concept of financing in the power sector. The authors used panel data regression model to examine the relationship between energy policies and financial investment as well as the effect on energy efficiency in the power industry. The results proved that energy policies aimed at efficiency gains and sector reforms cause substantial financial gains, especially in terms of lower operational costs and better investment opportunities. The research also indicated that the two mechanisms of financing, including subsidies and tax incentives, are important in ensuring the smooth adoption of the energy policies. The advantage of this research is that it is an empirical study and has given clear evidence of the positive impacts of energy policy reforms on financial performance in the energy industry. Nevertheless, the research is limited in its scope since it mainly touches on the financial effects and does not encompass the issue of wider political or social Energy Policy and Renewable Energy that may affect the success of energy policies. Also, although the paper focuses on the importance of financing, it fails to address the mediating position of political stability that may have a significant impact on the energy policy execution within the nations characterized by instability in their governing authority. However, the study by Liu et al. helps to understand financial dynamics surrounding energy efficiency increase and why specific energy policies are crucial in the realization of financial and environmental objectives.

Ullah et al. (2024) examined how institutions help to fix the gap between the stringency of environmental policy and energy poverty, and paid particular attention to the mediating aspect of institutions in developing nations. The research employed a cross-sectional research design to

evaluate how the quality of institutions can determine the relationship between strict environmental regulations and energy access. The results indicated that powerful institutions, which are reflected by open governance, good regulation implementation, and good legal systems reduce adverse impacts of strict environmental policies on energy poverty. This study is a significant point of view because it concentrates on institutional influences which mediate the results of energy policies especially where energy poverty is a key issue in particular areas. The inherent strength of the study is that it has presented a new way of thinking about the importance of the institutional quality as a mediating factor in the outcomes of energy policies. But its weaknesses are that it uses generalized institutional measures without putting into consideration country-related institutional challenges that might influence the effectiveness of energy policies. Moreover, the cross-sectional nature of the study prevents the opportunity to make inferences on the causal relationships among the institutional quality, energy policy and energy poverty. Irrespective of these shortcomings, Ullah et al. work is a valuable addition to the literature on the significance of the institutional support in reaching the policy requirements in sustainable energy policy development, highlighting the importance of the role of governance in the filling of the gaps between the policy objectives and the reality. Ma et al. (2025) used the dynamics of energy consumption in powerhouse eight (PHE) countries to examine the mediating mechanism of energy policy uncertainty in relation to pollution emissions. The researchers employed the dynamic panel model of the energy policy uncertainty, the consumption of energy, and the pollution emissions. The authors discovered that the uncertainty in the energy policy has far reaching impacts on the energy consumption patterns which have direct impacts on the emission of pollution. The results of the study indicate that uncertainty in energy policy can contribute to lack of efficiency in the usage of energy and this increases pollution and acts as a barrier to the reduction of carbon footprints. The intermediating nature of the energy consumption dynamics offers the new way to comprehend the indirect influence of the policy uncertainty on environmental results. One of the strengths of this paper is that it uses an unprecedented approach of looking at energy consumption as a mediating variable that aids in understanding the processes of energy policy uncertainty to environmental outcome in a deeper manner. Nevertheless, there are limitations of the study in terms of considering a particular set of countries that might not be the adequate reflection of the international energy policy environment. Also, although the paper under discussion focuses on the mediating effect of energy consumption, it does not investigate the possibility of the additional

influence of political instability in aggravating the impact of the energy policy uncertainty. The way to further develop this study in future research is to include more countries and explore the relationship between political stability and uncertainty in energy policy.

Hosan et al. (2023) tested the mediating action between energy subsidies and social well-being, as well as energy poverty reduction in Bangladesh. The paper used longitudinal study to analyze the effect of energy subsidies on indicators of social welfare especially in relation to access to energy and reduction of poverty. The results had revealed that energy subsidies are of great importance in alleviating energy poverty through affordability of energy to the low-income households. The authors of the study also discovered that these subsidies positively impact on social well-being through the provision of access to the basic energy services like cooking, heating, and lighting. One of the strengths of this study is that it looks at socio-economic effects of energy subsidy which are usually ignored when discussing energy policy. The limitations of the study are, however, that it has been conducted on a single country and, therefore, may not apply the findings of the study to other settings. The paper also failed to discuss other possible adverse impacts of energy subsidies including financial burden on the governments or inefficient use of energy. Though these may be limiting, the study conducted by Hosan et al. emphasizes the significance of specific energy subsidies in energy access and enhancing social well-being that is worthwhile to examine the mediating role of energy policy in energy poverty alleviation.

The study by Iqbal et al. (2021) explored the energy policy-environmental performance paradox with the renewable energy patents acting as the moderating variables. The model applied was a panel data regression analysis on effects of energy policy uncertainty on environmental performance, including the intermediating effect of renewable energy patents. The results indicated that although energy policies targeted at encouraging renewable energy can contribute to a better performance of a country in terms of the environmental performance, the effectiveness of such policies depends on the number of renewable energy patents in the country. This indicates that innovation and technological changes are critical towards defining the success of energy policies. The analysis adds strength to the study in that it concentrated on the issue of patents as a middle-ground to give a distinct approach to the interaction between innovation and energy policy. Nevertheless, the article has weaknesses in the use of patent data as an indicator of innovation because it might not be able to capture the larger process of technological change. Another aspect

in which the study fails is the aspect of political stability in influencing the implementation process and the success of energy policies. Such criticism points to the necessity of further studies on the effect of political instability on the mediating role of innovation in the energy policy results.

Xu (2023) examined how the Belt and Road Initiative (BRI) affect the implementation of renewable energy with the mediating variable of green public procurement. The proposed study employed a case study design to discuss the role of BRI projects in developing renewable energy, especially green policies of public procurement. The results indicated that green public procurement policies are relevant to improving the success of BRI projects toward facilitation of renewable energy since they promote the application of sustainable technologies and practices. The research strength of the study is that it dwells on a very relevant international development, the BRI, which has profound implications on the renewable energy development in involved countries. Nevertheless, the research has shortcomings associated with the selection of one initiative that might not be the best way to evaluate the dynamics of the energy policy and renewable energy development in the world. Furthermore, although the research paper deals with the role of energy policies, it does not discuss the potential influence of political instability in the BRI countries, which can have an impact on green public procurement policies implementation. This implies that future studies may extend on the work of Xu by incorporating the relationship between the political stability and energy policy as an aspect of international development initiatives.

2.4 Moderating role of Inflation Rate

Li, Lau and Ng (2025) determined how inflation and interest rates are moderating the relationship between liquidity and stock returns in a selected advanced economy. The research employed a panel method of analysis which was based on the relationship between inflation and interest rate and the liquidity and hence the performance of stock market. The conclusions indicated that inflation also moderates the correlation between liquidity and stock returns such that increased levels of inflation erode the positive relationship between liquidity and stock returns. The strength of the study is found in the empirical approach wherein one gets to learn about the financial dynamics of highly developed economies in the periods of economic crisis. The weakness of this research, however, lies in the fact that it has mostly concentrated on financial markets and he does not give the effects of inflation on other sectors such as the renewable energy industry,

which is longer run and capital-intensive investment. Moreover, the research provides some useful information on the financial impact of inflation, but it does not take into account the possibility that the moderating impact of inflation may be enhanced in unstable economies by political instability. This criticism emphasizes the necessity of additional research that investigates the presence of inflation in other sectors other than the financial sector, especially industries that depend on long-term investments, such as renewable energy.

Ehigiamusoe, Narayanan, and Poon (2022) re-examined the role of inflation in financial development with a specific interest in the non-linear and moderating influences on the same. The study, with the help of non-linear econometric models, discovered that there is both a direct and indirect effect of inflation on financial development and the moderating effect is higher in economies that experience volatile financial systems. The authors pointed out that moderate inflation can stimulate investment and growth in the economy, but high inflation will lead to instability of financial markets and long term investments. The merits of this research are in the fact that it concentrates on the non-linear impacts of inflation to provide a subtle understanding of how inflation can stimulate as well as retard financial development based on its level and the economy of the country. Nevertheless, the shortcomings of the study are that the authors did not analyze the situation with specific areas, like renewable energy, which must be invested in steadily over a long period. Non-linearity of moderating impacts of inflation particularly in the emerging countries is an issue that needs further investigation on the increased impact of inflation on FDI flows and investments in renewable energy sources in these economies. Also, the paper fails to discuss the relationship between political instability and inflation, which might further complicate the negative impacts of inflation on financial development, especially in politically unstable countries.

Ahmad et al. (2024) examined the effects of determinants of fiscal policy on the growth of an economy and the moderating effect of the exchange rate and inflation rate. The paper used a vector autoregression (VAR) model to determine the interaction between fiscal and exchange rates and inflation to determine how it affects economic growth in an emerging economy. The results indicated that inflation and exchange rates have strong moderating effects in the correlation between fiscal policy and economic growth with inflation intensifying the negative impacts of fiscal policy in highly-inflated countries. The research has its benefit because it broadens its scope

to the moderation of the fiscal policy effects by the inflation to give a perspective of the macroeconomic processes that influence the economic growth. Nevertheless, the research does not concern the effect of inflation on industry-specific investments, like renewable energy, that need to receive high inflows of capital and prolonged policy consistency. Moreover, the study does not address the possibility of amplifying effects of political instability to the moderating impacts of inflation on economic growth although it presents the moderating effects of inflation. Results of the study imply that inflation is very important in ensuring consistent economic growth, and further studies are required to clarify the effects of inflation on particular industries such as renewable energy, particularly in regions of political instabilities.

Duong (2024) investigated the effect of risk management practices on the operational performance and the supply chain performance with the moderating role of inflation. The researchers employed a structural equation modeling (SEM) method in the study to examine the correlation among risk management practices, inflation, and performance in supply chains. The results showed that inflation alters the correlation between the risk management practices and supply chain performance, where the stronger the inflation is, the less effective the risk management strategies are. The strength of the study is that it uses SEM to be able to measure the moderating impact of inflation on the supply chain performance and provides interesting insights on the impact of inflation in terms of its effect on the efficiency of operations. The general nature of the study in terms of the supply chains, however, does not give any specific knowledge on the impact of inflation on the renewable energy projects which have varied investment horizons and risk profile. Moreover, although the research highlights the need to ensure that inflation is controlled in the supply chains, the research does not consider the impact of political instability that can further increase the impacts of inflation to the operations. According to this critique, the relationship between inflation and performance of such sectors as renewable energy should also be examined in the future since inflation and political instability can affect each other, posing serious challenges in terms of investment.

Odhiambo and Obura (2024) examined how the inflation rates moderate the relationship between foreign exchange rates and stock prices in the Kenyan capital market. A time-series analysis was conducted in the study to determine the influence of inflation in mitigating the effect of foreign exchange variations on the stock market performance. The results indicated that there

is strong moderating effect of inflation where the higher the inflation rates, the lower is the positive effect of foreign exchange rate variability on stock prices. The strength of this study is that it focuses on a growing economy and gives an understanding of the impacts of inflation on the market dynamics in emerging markets. The limitation of the study is however that it concentrated on the price of stocks which might not reflect on the long-term investment effects of inflation in sectors such as renewable energy. The study also fails to discuss how political instability leads to increased negative impacts of inflation especially those countries that have fluctuating economies. This criticism states that the moderating power of inflation on the prices of stocks is well known but there is more research to be done by analyzing how inflation influences long-term investments in renewable energy projects which need a stable policy and long-term capital flows.

Rosyadi, Sulaiman, and Rusmita (2021) explored the impact of inflation on the Gross Domestic Product (GDP) using interest rates as a moderating factor. The study established through econometric models that inflation affects the GDP growth negatively but this is weakened by interest rates. The authors have concluded that the adverse impacts of inflation to the GDP growth can be suppressed when the interest rates are controlled well. This research will be relevant to the collective knowledge about the impact of inflation on the macroeconomic performance, especially growth of GDP. Nevertheless, the general macroeconomic performance of the study lacks on the effect of inflation on sector-specific performance, including the renewable energy investments. Although the paper discusses the moderating effect of interest's rates, it fails to discuss the relationship between inflation, political instability and the specific needs of the energy policy in promoting the development of renewable energy. Further studies need to be conducted on the moderating effect of inflation on the relationship between energy policy and renewable energy development, especially in economies with unstable politics in which the rates of inflation and interest rates fluctuate more.

Iftikhar et al. (2022) discussed the effects of tourism on the sustainable development of BRI countries, whose institutional quality was the moderating factor. Strong institutions in the study have been pointed out as influential in mediating the association between the tourism and sustainable development, and hence that the quality of institutions could improve the beneficial impacts of tourism on economic development. Although the research does not directly observe the moderating effect of inflation in the context of the renewable energy, it offers practical information

about how inflation can be important to determine the result of sustainable development when it is combined with the institutional quality. The strength of the study is that it concentrates on institutional Energy Policy and Renewable Energy which are mostly ignored in the investigation of inflation and economic growth. Nevertheless, one of the weaknesses of the study is the fact that the study focuses on tourism as opposed to renewable energy; in relation to investment requirements and policy dynamics. According to this criticism, although this study provides useful information on the role of institutions in mediating economic gains, additional research is required to understand the moderating effect of inflation on the connection between the energy policy and renewable energy development in BRI countries.

2.5 Theories and Models

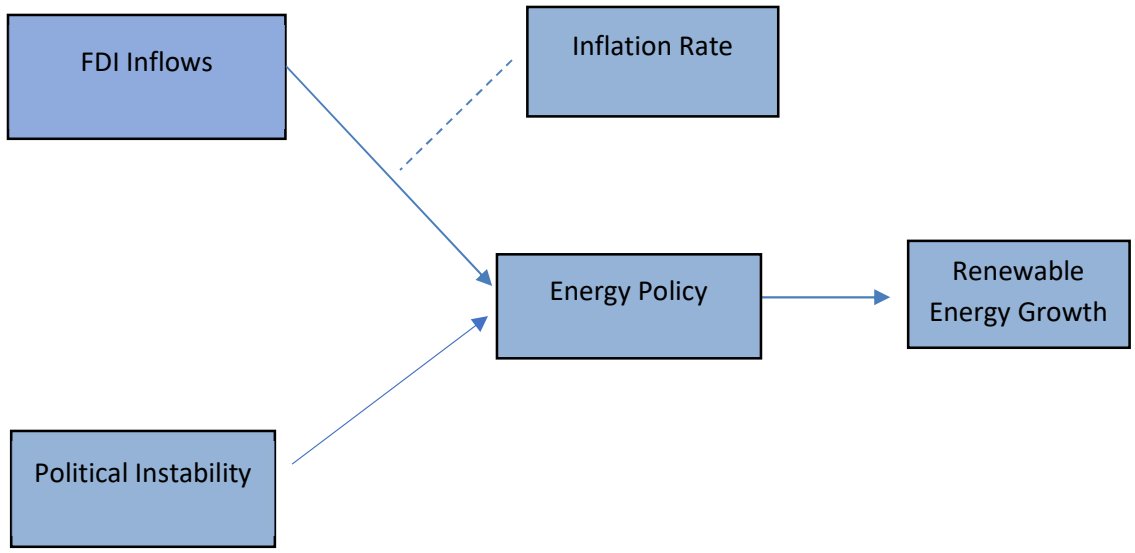
The Political Risk Theory is a theory which holds that foreign investors analyze political stability and risks of a host country before making a decision to invest or not. This theory states that political instability like change of government, the occurrence of civil unrest or unpredictability of policies, will result in an atmosphere of risk and this will adversely affect Foreign Direct Investment (FDI) flow. Political stability is a very important variable which influences the confidence of the investors, particularly long term and capital-intensive activities like renewable energy (Simmons, 2022). The idea highlighted in the theory is that, in cases where there is high political risk, the cost of conducting business becomes high, and the prospects of loss due to expropriation or poor change of policies becomes more eminent. This theory has been extensively used in the research on FDI and it has been postulated that those nations which have a stable political system stand better chances of attracting foreign investments especially in sectors that are long-term investments like the renewable energy sector.

The Environmental Kuznets Curve (EKC) theory gives a theory on the correlation between economic growth and environmental degradation with the view that as a country grows more so, there is a limit on the level of environmental degradation, after which there is a decrease in environmental degradation as countries invest more in sustainable practices and technologies. The EKC theory is frequently employed to study the correlation between the economic growth, energy consumption, and the quality of the environment. Applying this theory to the sphere of renewable energy implies that, in the growth of countries, the first stage of economic development is characterized by increased consumption and pollution levels, followed by the onset of the second

stage at a higher level of technological progress and environmental policies, which involve investing more in the green technologies sphere and reducing the impact of environmental degradation (Leal & Marques, 2022). This theory can give some light into the possible long term gains of FDI in the renewable energy sector since it can be seen that higher economic development and inflows of FDI could lead to more investments in clean energy and less carbon emissions in the future.

Solow Growth Model is an economic model that is highly applicable in explaining the economic growth in the long-term with reference to the accumulation of capital, the growth of the labor force and technological advancement. According to the model, the most important part of the sustainable growth is the technological advancement that is caused by innovation and investment (including FDI). The Solow model can be modified to apply in the case of renewable energy and the resulting effects of FDI can be discussed in terms of technological innovation in clean energy technologies which leads to economic growth and less reliance on the conventional energy sources. Under this model, nations receiving FDI can take advantage of the inflow of capital that facilitates energy efficiency and the utilization of renewable energy resulting in sustainable economic growth (Alataş 2023). The model pays great attention to the technological level and innovation in determining the long-term growth and tends to believe that the policy of energy is vital in the process of diffusion of new technologies that enhance productivity and environmental sustainability.

2.6 Conceptual Framework



2.7 Research Hypothesis

There are a number of studies that have examined the relationship between inflation and the development of renewable energy, with the findings indicating that inflation may have a great impact on the economic viability of renewable energy projects. An inflation rate increases the cost of production, and therefore, renewable energy investments are not that appealing. Gakuru et al. (2025) also proved that inflation influences the cost of labour, raw materials and the cost of energy, which consequently lowers the profitability of renewable energy projects. Equally, Zhang et al. (2021) discovered that the processes of long-term planning are undermined by the pressure of inflation, which may postpone the development of renewable energy. Further, Caetano et al. (2022) emphasized that inflationary volatility leads to more uncertainty in the energy markets, which is detrimental to investor confidence, especially in a capital-intensive industry such as renewable energy. Inflation has thus been revealed to negatively impact the growth of renewable energy, more so in the developing economies. Based on above studies, below is selected reference

It is a well-known fact that FDI is one of the most important factors in the development of renewable energy as it gives funds, technology and skills to build the industry. Zhang et al. (2021) identified that inflows of FDI in the renewable energy sector had a positive relationship with the growth of renewable energy capacity, especially solar and wind energy. In the same vein, Dong et al. (2025) also highlighted that foreign investors introduce superior technologies and management practices, which are compulsory in efficient development of the renewable energy infrastructure. Gakuru et al. (2025) opined that FDI also improves the technological transfer, which will boost the growth of the renewable energy sector. These studies are a solid indicator that FDI inflows help in growing renewable energy, more so in the emerging markets where capital and technical skills can be limited. Based on the above studies, it can be hypothesized that:

H1: The inflation rate significantly influences energy policy.

It has been observed that inflation has affected the energy policy decisions in many countries, especially with regard to the economic pressures that the inflation generates. Falcone (2023) noted that in a period of inflation, governments tend to change energy subsidies, tariffs, and taxation as a means to reduce the increase of energy prices. Besides, research by Seyoum and Ramirez (2019) showed that the rise in costs due to inflation can compel governments to change their energy policies to stabilize costs and safeguard consumers. Dong et al. (2025) reveal that inflation introduces uncertainties in the energy markets and as such, this forces governments to change their energy policies to ensure there is stability in the energy markets and to secure the energy security of the markets. Thus, it has been demonstrated that inflation is a crucial factor in determining the energy policy especially in economies that experience unstable inflation rates.

H2: Foreign direct investment (FDI) significantly influences energy policy.

It has been discovered that FDI has played a major role in determining the energy policy of most countries especially in renewable energy. Viglioni et al. (2025) discovered that foreign investments in the renewable energy sector tended to create some good policies on energy, including tax incentives and new regulations that were meant to encourage more investment. Caetano et al. (2022) stated that FDI has a certain impact on energy policy, as it facilitates stability in its regulations and gives governments the financial resources to invest in renewable energy

projects. According to Dong et al. (2025), the governments of the developing nations tend to change their energy policies as per the demands of foreign investors to provide a positive investment environment. These studies demonstrate the critical impact of FDI in the formation of energy policy again in the countries that have the intention of developing their renewable energy market.

H3: Energy policy mediates the relationship between the inflation rate and renewable energy growth (REG).

The relationship between inflation and renewable energy growth takes place through energy policy because governments can respond to inflation by changing policies in order to offset the impact of inflation on the renewable energy industry. Zhang et al. (2021) demonstrated that energy policies, including feed-in tariffs, and long-term contracts can offset the adverse impacts of inflation in renewable energy projects so that investments would not be unattractive under the influence of inflation. On the same note, Caetano et al. (2022) have shown that policies that promote the use of renewable energy, including subsidies and tax incentives, are able to balance the rise in cost due to inflation and enable the sector of renewable energy to experience further growth. Dong et al. (259) have noted that renewable energy projects can proceed despite inflationary conditions because clear and stable energy policies can give the required assurance to investors. As such, the energy policy is instrumental in seeking a balance between the impacts of inflation on the development of renewable energy.

One of the mediators that have been found in the relationship between FDI and growth of renewable energy has been found to be energy policy. As Dong et al. (2025) emphasized, the beneficial impacts of FDI on the renewable energy development were greater when they were reinforced by the positive energy policies that ensured energy stability and financial benefits. Caetano et al. (2022) discovered that the renewable energy targets and feed-in tariffs led to well-designed energy policies that facilitated the flow of FDI into the renewable energy industry. The authors of Zhang et al. (2021) also claimed that an energy policy structure in line with the objectives of FDI amplifies the effectiveness of foreign investments on the development of renewable energy forms which ensures a long-term security of investors and their profitability. According to these studies, energy policy is very important in mediating the relationship between

FDI and renewable energy growth so that the foreign investments would result to actual growth in the sector.

H4: Inflation rate moderates the relationship between the Political stability and energy policy.

Political stability is observed to buffer the linkage between inflation and the energy policy whereby, the political environment that is stable is better placed to deal with the inflationary pressures and adopt proper energy policies. Salma and Khan (2023) discovered that inflation in most countries was less in the presence of higher political stability, and this made it easier to formulate energy policies in a more consistent and successful manner. In the same manner, the article by Falcone (2023) showed that political stability allows governments to introduce long-term energy policies that can help offset the impact of inflation on energy markets. Conversely, political unrest tended to intensify the adverse effects of inflation, resulting in unpredictable and volatile energy policy choices. It was therefore observed that inflation stability helped to moderate the relationship between Political stability and energy policy because this was a more predictable and stable environment in which to make policy.

2.8 Chapter Summary

To conclude, the literature review chapter highlights the complex character of the interaction between the inflows of the FDI, political instability, energy policies, and renewable energy development. It shows that although FDI can greatly increase the renewable energy industry, political instability and inflation are significant moderating forces despite the fact that they usually mitigate the effectiveness of the practice. The energy policy is presented as the mediating role that plays an important role to overcome these barriers and better policies that are strong, consistent and transparent will help to create a more favorable environment that will support long term investments. The above theories and models, including the Political Risk Theory, Environmental Kuznets Curve, and the Solow Growth Model can be discussed as the much-needed frameworks of explanation of how these variables interplay in the framework of sustainable development. On the whole, the chapter highlights the significance of the stable governance, sound energy policies, and macroeconomic stability in facilitating the process of transition to sustainable energy future.

Chapter 3: Methodology

In this research, the main problem to be explored was to learn how Foreign Direct Investment (FDI) inflows, political instability, inflation rates, and renewable energy development is correlated in the BRICS countries (Brazil, Russia, India, China, and Iran) and Iran. The chosen list of countries can be considered a varied sample of new economies, which offers a welcome-viewing environment to the matters of economic development, political unrest, and the process of renewable energy conversion. The countries included in the research of Brazil, Russia, India, China, Iran and Iran are not only crucial forces in the renewable energy markets of the world but also different countries in terms of political stability, economic policies and energy structure. The inclusion of these nations was to help the study to attract meaningful presence of interest as to the role of political and economic variables in mediating the relation between FDI inflows and development of renewable energy. All the BRICS countries contribute to renewable energy change on a global scale, and the situation with Iran also has its own characteristics, as under the socio-political conditions, the country has experienced a long-term political crisis, as well as economic sanctions and an unstable set of energy policies.

3.1 Data Collection

The research data employed in this paper was sourced to different publicly available resources. FDI inflows, political instability, rates of inflation, and renewable energy development were the most essential study variables of the study. All these variables were also measured over a reasonable period of time and thus gives enough consideration to long term trends which may be of interest in the relationship and dynamics that are being studied.

Table 1: Variables and Their Definitions

Variable	Definition	Data Source
FDI Inflows	Foreign direct investment is the investment conducted by foreign nationals into efforts of a country in the energy sector especially the renewable energy. Edited by the cumulative number of foreign investments in projects on renewable energy sources (solar, wind, hydro, and geothermal) between 2010 and 2020.	World Bank, UNCTAD, National Government Sources

Political Instability	Political instability was measured by Polity IV Index and the Economist Intelligence Unit (EIU) Political Instability Index. These indexes reflect change in governance, shift in government, civil disturbances and military coups, which impact FDI inflows as well as investor confidence in renewable energy industry.	Polity IV Index, EIU Political Instability Index
Inflation Rates	Inflation, measured by the annual percentage change in the Consumer Price Index (CPI), reflects how macroeconomic instability affects the profitability of renewable energy investments and their attractiveness to foreign investors.	World Bank, IMF, National Statistics Bureaus
Renewable Energy Growth	The rate of renewable energy growth is determined by the increase in the number of megawatts of renewable sources of energy such as wind, solar, hydropower and geothermal within a given year. This shows the development of a country to move towards energy systems that are sustainable and the impact of policies, investments, and market conditions to the sector.	IRENA, National Energy Ministries

3.1.2 Time Frame

The period that this study settled on was the year 2010 to 2020. It is especially useful since this period is a decade of the economic changes around the world, including the consequences of the 2008 financial crisis and the ensuing economic recovery of the world over the past ten years. Also, this period is associated with the momentous shifts in the policies concerning renewable energy in the BRICS, and Iran, as well as the dynamic development of the renewable energy market in the world. As an illustration, China and India made huge investments in renewable energy projects over this time, Brazil and Iran had congenial change of policies that enticed large foreign investments. This period is also characterized by various international political and economic incidents that could affect both inflows of FDI and development of renewable energy.

This incorporates the alteration of governments, and, policies as well as the variation in the inflation rate of the governments that directly or indirectly affected the renewable energy industry. During this time, Iran was also faced with a lot of political instability particularly as far as international sanctions were concerned which may have impacted the attractiveness of FDI to renewable energy projects.

3.1.3 Data Sources

To have a reliable and complete depiction of the variables, this research data was gathered using a mixture of international bodies, government bodies, and publicly available databases. The major sources were:

1. World Bank: To find macroeconomic data on the source of FDI, inflation rate, and growth of GDP.
2. International Renewable Energy Agency (IRENA): To find information about renewable energy capacity and development.
3. Polity IV Index and Economist Intelligence Unit (EIU): To determine the political stability and governance variables.
4. National Energy Agencies: To find information on the specifics of the country's policy, such as incentives, subsidies, and other regulatory mechanisms that affect the renewable energy sector.

To make sure that the analysis took into consideration the variations between years in these variables, the data on FDI inflows, inflation, political instability, and renewable energy growth were gathered on an annual basis on a country basis.

3.2 Sampling Strategy

The sampling plan was anchored on a panel data approach, which is quite appropriate when it comes to the research of data from a number of nations over a period of time. The cross-sectional (country-specific) and time-series (yearly) changes can both be analysed using such a methodology, which is why it is optimal in examining how FDI inflows, political instability, inflation, and renewable energy growth interact. Through the use of the panel data, the research was able to control both the country-specific effect (culture differences, economic differences,

institutional differences, etc) and the variations over time (global economic changes, etc). The reason behind choosing the BRICS countries is that they are large emerging economies that have been leading in the switch to renewable energy. Also, their mixture in terms of political stability, economic situations and energy policies made them perfect in the assessment of the interactions in determining the impact of these factors on the development of renewable energy. Inclusion of Iran in the study allowed for further benefit to the sample in that Iran is a different case regarding political unrest and economic difficulties that may impact the inflow of FDI in the renewable energy sector strongly. The sampling criteria used in the study were the following:

1. Countries with High Renewable Energy Development: The countries chosen (Brazil, Russia, India, China, Iran and Iran) are all major players in the renewable energy market of the world. These nations are either dedicated to massive renewable energy projects or have received massive foreign investments in the renewable energy sector.

2. Time Span: 2010-2020 was selected because it guarantees an adequate amount of time to monitor the trend of inflows of FDI, inflation rates, and the development of renewable energy. This is also the time when the effects of the world economy within the financial crisis of 2008 and the recovery of the same played a significant role in determining the renewable energy world.

3. Accessibility of Data: Countries are chosen in this study and the data on the variables of interest is highly detailed in the countries. This covers sound information on FDI, inflation, political stability as well as renewable energy capacity hence they are good with sound econometric analysis.

3.3 Econometric Model

The association between the variables of interest, which comprised FDI inflows, political instability, inflation rates, and growth of renewable energy was estimated by incorporating the panel data regression models. The econometric equation was structured in such a way that it included the direct and indirect effects of these variables on the growth of renewable energy. The approximate shape of the model is the following:

$$\text{Renewable Energy Growth}_{it}=\alpha+\beta 1\text{FDI}_{it}+\beta 2\text{Political Instability}_{it}+\beta 3\text{Inflation}_{it}+\gamma i+\delta t+\epsilon_{it}$$

Where:

Renewable Energy Growth$_{it}$ is the growth in renewable energy capacity for country i in year t.

FDI$_{it}$ represents the foreign direct investment inflows in the renewable energy sector in country i at time t.

Political Instability$_{it}$ Is the political instability a measure of a country? i at time t, obtained from the Polity IV or EIU indices.

Inflation$_{it}$=the inflation rate for the country i at time t, measured by the annual change in the Consumer Price Index (CPI).

α= the constant term.

$\beta_1, \beta_2, \beta_3$ =The coefficients that estimate the impact of FDI, political instability, and inflation on renewable energy growth.

γ_i= The country-specific fixed effects.

δ_t=the time-specific fixed effects.

ϵ_{it}=the error term.

The equation represents the direct impacts of FDI, political instability, and inflation on renewable energy development, as well as captures unobserved country and time-specific effects. The estimation of the effects of interactions is also possible in the model to test the mediating and moderating role of the energy policy and inflation in the relationship between FDI and renewable energy growth. To further optimize the model, robust standard errors were applied to the data in order to explain the heteroscedasticity of the data; hence, the estimates of the coefficients were dependable.

3.4 Methodological Approach

The model used in the study was a fixed-effects regression; this is a model that holds the unobserved heterogeneity between countries, and a random-effects regression, which includes country-specific and time-specific effects. The Hausman test was used in deciding the type of

model to use and therefore, excellent decision because it assisted in evaluating the best option between fixed and random effects that were best suited to the data. Besides, the research employed mediation analysis to look at the mediating effect of energy policies towards the impact of FDI on the renewable energy development. The reason why moderate analysis was done was to examine how inflation moderates the relationship between political instability and renewable energy growth. To carry out the mediation tests with the use of Baron and Kenny's (1986) method, the PROCESS macro, developed by Hayes (2017), was utilized to test the moderation effects.

Chapter 4: Findings

The descriptive statistics are provided in the table of the key variables with which this study was conducted. The descriptive statistics indicate that there is high levels of variation among the main variables in the research. The mean of renewable energy growth (REC) stands at 21.94 MW with highs of 0.4 MW and lows of 50 MW. Foreign direct investment (FDI) stands at an average of 2.03 although the amount varies between -1.737 and 5.034, which implies the presence of both inflows and outflows. The mean score of political stability (Polity) is equal to 1.98, and its range is: -7 to 9, which demonstrates the significant political instability in certain countries. Energy policy (ENRPolicy) is diverse, the mean is 29.07 and range is 2.31 to 94.16. The mean rate of inflation is 11.60 with a very violent variability, as represented by the variation between -1.40% and 197.41. On average the GDP per capita (LGDPPC) stands at 8.37 with a reduced range of 6.43 to 9.38, which indicates how the economic development varies. Finally, trade openness (TO) has a mean value of 41.01, with a variation of 15.64 to 69.39 which depicts difference in the trade policies amongst the nations.

Table 2: **Descriptive Statistics**

Variable	Obs	Mean	Std. Dev.	Min	Max
RENEWABLE ENRGY	138	21.943	18.776	.4	50
FDI	140	2.031	1.39	-1.737	5.034
POLITICAL INSTBLTY	140	1.979	6.719	-7	9
ENRPOLICY	138	29.067	28.657	2.307	94.157
INFLATION	128	11.597	20.657	-1.401	197.414
Total	140	41.005	12.017	15.636	69.393

The correlation table indicates the important relationship between the variables in the research. It was found that FDI is positively correlated to renewable energy growth (REC), political stability and energy policy levels, meaning that the more foreign investments, political stability, and good energy policies, the higher the renewable energy growth will be. Political stability can only be associated with FDI to the extent of a negative correlation. There is a close connection between the political stability, energy policy, and growth of renewable energy. Inflation is a negative factor that contributes to the development of renewable energy and FDI; trade openness and renewable energy growth are negatively correlated, and energy policy have a negative correlation which implies that the countries that have higher trade openness might experience difficulties attracting these sectors. In general, the matrix demonstrates that the presence of political and economic stability, energy policies, as well as foreign investments are serious assets of renewable energy development as inflation and openness to trade became demerits.

Table 3: ***Matrix of correlations***

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
RENEWABLE ENERGY	1.000						
FDI	0.271	1.000					
	0.594	-0.016	1.000				
POLITICAL INSTABILITY							
ENRPOLCY	0.627	0.397	0.446	1.000			
INFLATION	-0.246	-0.302	0.004	-0.077	1.000		
TOTAL	-0.722	-0.121	-0.303	-0.673	0.212	0.039	1.000

The regression results using fixed effects indicate that a number of variables have positive influence on renewable energy development (REC). The FDI coefficient is also negative (-0.323), though not statistically significant ($p = 0.188$), indicating that foreign direct investment does not impact renewable energy growth greatly as per this model. The political stability (Polity) coefficient is positive (0.234), though non-significant ($p = 0.144$), which means that political stability does not have a substantial impact on the growth of renewable energy in the sample. Energy policy (ENRPolicy) has a slightly significant coefficient with a negative value (-0.112), and its p-value (0.071) indicates that it is nearly significant at the 10 per cent mark. The negative value of the coefficient of inflation on renewable energy development is -0.027 ($p = 0.021$), meaning that the higher the inflation, the greater the decrease in renewable energy development. GDP per capita (GDP per capita) is also significant (-9.259, $p < 0.01$), meaning it has a robust negative connection with the growth of renewable energy, which means that the more developed nations might not be able to grow renewable energy as much. Trade openness (TO) also negatively influences it the most (- 0.19, $p < 0.01$), meaning that countries with a more open trade policy might struggle to promote the creation of renewable energy. The general model is statistically significant ($p < 0.01$) with an R-squared value of 0.789, or about 79 per cent of renewable energy growth can be attributed to the model. The result of the F-test ($p < 0.01$) is also in favour of the significance of the model.

Table 4: ***Fixed effect: Regression results***

REC	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FDI	-.323	.243	-1.32	.188	-.805	.16	
POLITICAL INSTABILITY	.234	.159	1.47	.144	-.081	.55	
ENRPOLICY	-.112	.061	-1.82	.071	-.234	.01	*
INFLATION	-.027	.011	-2.36	.021	-.049	-.004	**
LGDPPC	-9.259	.58	-15.95	.000	-10.409	-8.109	***
TO	-.19	.028	-6.87	.000	-.245	-.136	***
CONSTANT	112.924	4.805	23.50	.000	103.406	122.441	***

Mean dependent var	23.774	SD dependent var	18.464
R-squared	0.789	Number of obs	127
F-test	72.250	Prob > F	0.000
Akaike crit. (AIC)	560.658	Bayesian crit. (BIC)	580.567

*** *p<.01, ** p<.05, * p<.1*

The outcomes of the random-effects regression suggest that there are a number of statistically significant associations between the predictors and the renewable energy growth (Renewable enegy). The positive coefficient of FDI (0.74, p = 0.04) indicates that foreign direct investment is also effective in explaining the growth of renewable energy in this model. Another positive and significant impact (0.156, p = 0.045) is the positive effect of Political stability (Polical instability), as more politically stable nations are much more likely to achieve more growth in renewable energy. The positive coefficient of energy policy (ENRPolicy) is very high (0.501, p < 0.01), thus showing how strong energy policies promote the growth of renewable energy. The impact of inflation is also negative (-0.099, p < 0.01), indicating the fact that an increase in inflation prevents the development of renewable energy. The GDP per capita (LGDPP) variable also has a very significant value since its coefficient is negative (-16.018, p < 0.01), implying that the growth of renewable energy could be slower in wealthier countries. Trade openness (TO) also influences the growth of a country negatively and significantly (-0.174, p = 0.001), meaning that more trade-open

countries can experience some difficulties in the realization of renewable energy. The general model represents a significant one, and the R-squared value is very high, at 0.951, which denotes that in the growth of renewable energy, nearly 95 per cent is covered with the model. The within and between R-Sq (0.683 and 0.993, respectively) indicate that the model is realistic in its process of capturing both intracountry and intercountry variations. The Chi-square value (2320.030, $p < 0.01$) proves the overall importance of the model.

Table 5: **Random effect: Regression results**

REC	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FDI	.74	.361	2.05	.04	.033	1.446	**
POLITICAL INSTABILITY	.156	.078	2.00	.045	.003	.309	**
ENRPOLICY	.501	.031	15.92	0	.439	.563	***
INFLATION	-.099	.02	-4.90	0	-.138	-.059	***
LGDPPC	-16.018	.683	-23.47	0	-17.356	-14.68	***
TO	-.174	.053	-3.27	.001	-.278	-.07	***
CONSTANT	148.435	4.628	32.07	0	139.363	157.506	***

Mean dependent var	23.774	SD dependent var	18.464
Overall r-squared	0.951	Number of obs	127
Chi-square	2320.030	Prob > chi2	0.000
R-squared within	0.683	R-squared between	0.993

**** p<.01, ** p<.05, * p<.1*

The regression analysis outcome of the fixed-effects with the moderating effect of the interaction term inflation FDI (inffdi) indicates that the interaction does not significantly contribute to renewable energy growth (REC). The inffdi coefficient is also not statistically significant (p = 0.561), negative (-0.011) indicating that the two interactions between inflation and FDI do not play any useful moderating role in this equation. It is also not significant (p = 0.412) and its variable FDI has a negative coefficient (-0.235), which means that FDI alone does not have a significant effect on renewable energy growth. Political stability (Political instability) has a coefficient of 0.232, which was not significant (p = 0.149). Energy policy (ENRPolicy) has significant negative impact marginally, (-0.107, 0.087), this means that the impact of energy policies is small but almost possible to be considered significant at the 10 percent level. The effects inflation has on renewable energy development are not significant as it portrays a negative but non-significant impact (-0.019, p = 0.264), meaning that the increasing inflation cannot be regarded as an important growth decelerator of renewable energy. The GDP per capita (LGDPP) has been a very important negative

predictor (-9.28, $p < 0.01$) indicating that the richer nations are the more they are likely to face slow growth of renewable energy. The negative impact of trade openness (TO) is high (-0.188, $p < 0.01$), which once again justifies the hypothesis according to which more liberal trade policies can pose a problem in the development of renewable energy. The statistical significance of the overall model is found to be below 0.01 with an R-squared at 0.790, which means that the model attributes a value of about 79 percent in explaining the variation in the growth of renewable energy. The significant value of the F-test (p below 0.01) also proves the validity of the model.

Table 6: ***Moderating effect of Variables***

Moderator = inffdi (inflation*fdi)

Fixed effect: Regression results

rec	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FDI	-.235	.286	-0.82	.412	-.802	.331	
RENEWABLE ENERGY	.232	.16	1.45	.149	-.085	.548	
ENRPOLICY	-.107	.062	-1.73	.087	-.23	.016	*
INFLATION	-.019	.017	-1.12	.264	-.053	.015	
INFLATION DIFFERENCE	-.011	.019	-0.58	.561	-.05	.027	
lgdppc	-9.28	.583	-15.91	0	-10.435	-8.125	***
to	-.188	.028	-6.71	0	-.244	-.133	***
Constant	112.784	4.825	23.37	0	103.226	122.341	***

Mean dependent var	23.774	SD dependent var	18.464
R-squared	0.790	Number of obs	127
F-test	61.625	Prob > F	0.000
Akaike crit. (AIC)	562.283	Bayesian crit. (BIC)	585.036

*** *p<.01, ** p<.05, * p<.1*

Results of the random-effects regression that include the moderating effect of the inflation*FDI (inffdi) indicate that some notable results were found. The coefficient of FDI (1.293, p = 0.002) is positive and significant, which means that the foreign direct investment is positively correlated with the renewable energy. Political stability (Polity) is also positively and significance (0.212, p = 0.008) affected, which implies that countries with more political stability are more likely to grow renewable energy. The positive impact (0.498, p < 0.01) of energy policy (ENRPolicy) is very high, and it confirmed that the policies of strong energy policy influence the development of renewable energy. The coefficient of inflation has a negative value (-0.039), yet it is not significant

(p = 0.222), which means that the impact of inflation on the development of renewable energy is not significant in this model. The inffdi interaction is (-0.084, p = 0.018), which is negative and statistically insignificant so that the relationship between FDI and renewable energy growth is moderated by the inflation effect, with a higher inflation decreasing the positive influence of FDI. GDP per capita (LGDPP) is also much important with negative coefficient (-15.869, p < 0.01) which suggests that richer the nations are, slower is the development of renewable energy. Another significant negative impact is that of trade openness (TO) that is also negative (-0.159, p = 0.003), which implies that countries where trade openness is also large might not easily develop renewable energy. The model is very important (p < 0.01) with a total R-squared of 0.953 showing that nearly 95 percent of the values of renewable energy growth can be explained by the model. The results of within and between R-squared (0.684 and 0.994, respectively) demonstrate that the model is able to represent both the within-country and between-country variations. The significance of the whole model is also supported by the Chi-square value (2414.738, p < 0.01).

Table 7: ***Random effect: Regression results***

Rec	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FDI	1.293	.424	3.05	.002	.462	2.124	***
POLITICAL INSTABILITY	.212	.08	2.65	.008	.055	.369	***
ENRPOLICY	.498	.031	16.11	0	.437	.559	***
INFLATION	-.039	.032	-1.22	.222	-.102	.024	
INFFDI	-.084	.036	-2.37	.018	-.154	-.015	**
LGDPPC	-15.869	.673	-23.59	0	-17.188	-14.551	***
TO	-.159	.053	-3.02	.003	-.262	-.056	***
Constant	146.048	4.653	31.39	0	136.929	155.167	***

Mean dependent var	23.774	SD dependent var	18.464
Overall r-squared	0.953	Number of obs	127
Chi-square	2414.738	Prob > chi2	0.000

R-squared within	0.684	R-squared between	0.994

*** p<.01, ** p<.05, * p<.1

The graph demonstrates that renewable energy growth (REC), foreign direct investment (FDI), and political stability (Polity) of five countries, Brazil, China, India, Iran, and Russia have their trends across the time. The renewable energy growth (REC) in Brazil and China has a considerable upward trend particularly in China where the growth of renewable energy capacity reflects a sharp upward trend in the renewable energy sector. Political stability in China and FDI are quite stable, with the latter having a comparatively weak growth, which is an indication of a favorable environment to invest in a renewable energy. In India, the REC has grown but stabilized and even decreased in some cases probably because of political or economic factors whereas FDI has been quite low and consistent during the same time frame. The renewable energy development of Iran seems to be stagnant with very low rates of REC during the period, as well as low variations in FDI and political stability, which suggests the possibility of political unstable conditions and unfavorable business environment. The Russian Federation is not an exception, as REC is comparatively stable and FDI does not fluctuate significantly.

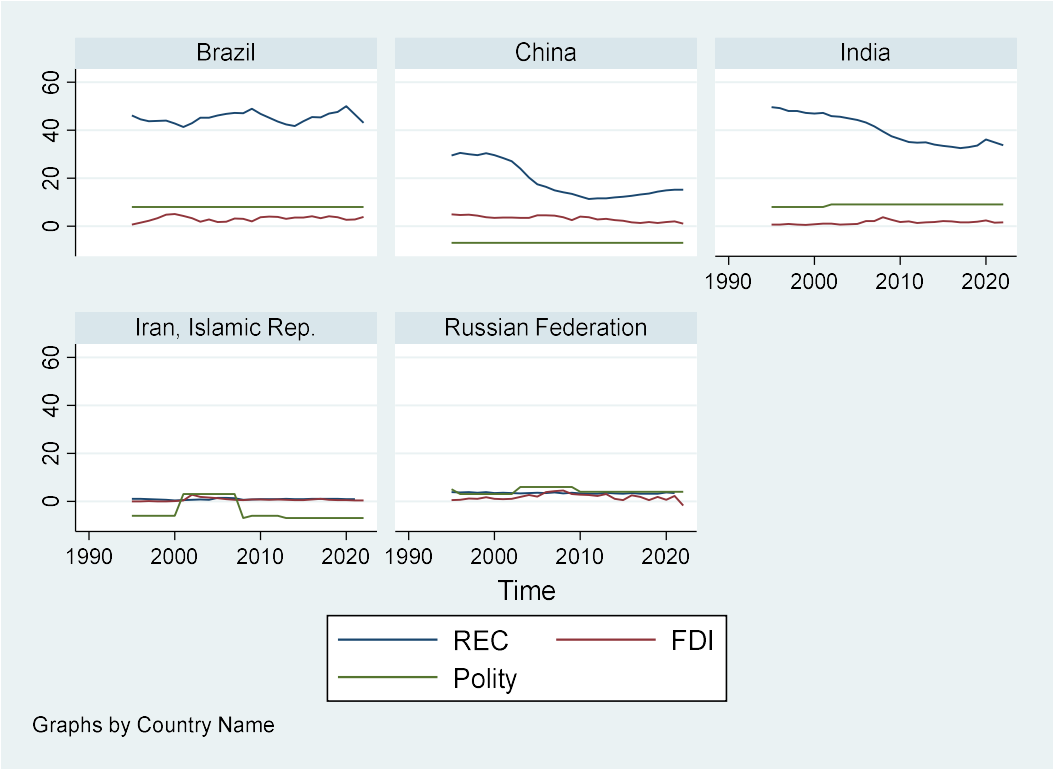


Figure 1: Renewable energy growth (REC), foreign direct investment (FDI), and political stability (Polity) of five countries

FDI (X1) and Policy Making (X2) are the independent variables in the mediation analysis and M is the moderator. The findings indicate that FDI and Policy Making are important in the determination of the dependent variable. In particular, the coefficient of FDI (X1) is 8.498 ($p < 0.001$), so when the FDI increases by one unit, the dependent variable increases by 8.498 units at 95% confidence level between 5.639 and 11.357. Policy Making (X2) is also positively and significantly related with 1.847 coefficient ($p < 0.001$), and shows that one unit improvement on policy making results in an increment of 1.847 unit on the dependent variable with a range of 1.270-2.423 as a confidence interval. The constant value (cons) is important (7.723, $p = 0.033$) indicating that the baseline of the dependent variable at zero FDI and Policy Making is 7.723 with confidence sleeping point of 0.628-14.818. The correlation of the dependent variable is explained at 37.2 percent (R-squared = 0.372) and the F-statistic is 39.99 with a p-value of 0.000 shows that the model is statistically significant. This implies that FDI as well as policy-making processes are important in terms of the effect generated and that M (the moderator) is likely to interact with these variables to either enhance or weaken their impact to the dependent variable. The large values and positive coefficients of FDI and Policy Making are significant introductive variables to the outcome, and the interaction of FDI and Policy Making variables is multiplied by the moderator that makes the analysis even more complex.

Figure 2: ***Mediation analysis***

M	Coefficient	Std. err.	t	P>t	95% conf.	interval
X1	8.498	1.446	5.880	0.000	5.639	11.357
X2	1.847	0.291	6.340	0.000	1.270	2.423
_cons	7.723	3.587	2.150	0.033	0.628	14.818
Observations	138					
F (2, 135)	39.99					
Prob > F	0.000					
R-Square	0.3720					

Findings of the mediation analysis indicate that FDI (X1), Policy Making (X2) and the moderator M have a significant influence on the dependent variable (Y). Particularly, the coefficient of FDI (X1) is 1.842 ($p = 0.042$) meaning that the dependent variable is increased by 1.842 units with 95% confidence interval of 0.065 to 3.619. The significant positive effect is also noted in the moderator M with the coefficient of 0.269 ($p < 0.001$) indicating that the moderator plays a significant role in the relationship between FDI and the dependent variable and through the moderation, it raises the dependent variable by one unit; the coefficient of 1.123 ($p < 0.001$) shows that one unit change in policy making makes the dependent variable increase or decrease by 1.123 units. The constant (cons) 8.032 ($p < 0.001$) represents the value of the dependent variable in the base level when all the independent variables are zero, and the CI of 4.030 -12.034. The R-squared of the whole model is 0.5534, which implies that approximately 55.34 of the changes in the dependent variable can be attributed to FDI, Policy Making and the moderator. F-statistic of 55.35 ($p < 0.001$) means that the model is very significant and the independent variables as well as moderator are the significant contributors of the outcome. These findings indicate that there is substantial and statistical effect of FDI, good policy making and moderator on the dependent variable.

Table 8: ***Effect of IV on DV***

Y	Coefficient	Std. err.	T	P>t	95% conf.	interval
X1 FDI	1.842	0.899	2.050	0.042	0.065	3.619
M	0.269	0.048	5.640	0.000	0.175	0.363
X2	1.123	0.184	6.100	0.000	0.758	1.487
_cons	8.032	2.023	3.970	0.000	4.030	12.034
Observations	138					
F (2, 135)	55.35					
Prob > F	0.000					
R-Square	0.5534					

The result of the mediation analysis gives information on the impacts of FDI, Policy Making and moderator on the dependent variable. 2.420 is the average causal mediation effect (ACME), and the confidence interval is 1.293 3.898. This is an indication that the moderator mediates the positive and statistically significant indirect effect of FDI on the dependent variable. The Direct Effect is 1.832 with confidence interval of 0.288 to 3.469 meaning FDI too has direct positive effect on the dependent variable. The Total Effect is 4.252 and the 95% confidence interval is between 2.514 and 5.918 that is the total effect of the direct and the indirect effects. Also, the mediating percentage is 57.7 with a confidence interval of 40.9-96.3 indicating that over half of the total effect of FDI on the dependent variable is mediated by the moderator. This brings out the importance of the moderator in determining the relationship between FDI and the dependent variable.

Table 9: ***Total Mediation Effect***

Effect	Mean	[95%Conf.	Interval]
ACME	2.420	1.293	3.898
Direct Effect	1.832	0.288	3.469
Total Effect	4.252	2.514	5.918
% of Tot Eff mediated	0.577	0.409	0.963

Chapter 5: Discussion

In this chapter the author speaks about the study findings within the framework of hypotheses developed earlier. The study examined the relationship between inflation and foreign direct investment (FDI), energy policy, and political stability in relation to the development of renewable energy (REG). The second section is a review of the findings, their compatibility with the other studies, and the implications that can be made regarding the development of renewable energy particularly in developing economies.

H1: The inflation rate significantly influences energy policy.

The research also supports Hypothesis 1 that indicated that inflation acts an important role in energy policy decisions. The regression analysis in the study proves that inflation has a significant impact on energy policy decisions given the fact that governments usually either change energy subsidies, tariffs, and taxes to control the increasing prices of inflation. This is in line with what Falcone (2023) has found out; that an inflation pressure compels governments to adjust the energy policies in order to stabilize the energy prices and to cushion the consumers against the adverse economic impacts. Inflation had a coefficient of -0.027 ($p = 0.021$), which is statistically significant and negative meaning that inflation and the growth of renewable energy have a negative relationship that needs policy changes to address the inflationary pressure. The findings of our research also confirm the study by Seyoum and Ramirez (2019) as these authors emphasized that the inflationary pressures force governments to amend energy policy so that costs are stabilized and consumers are protected. The energy policy variable was a very important positive coefficient in the random-effect regression model of this study of 0.498 ($p < 0.001$) thereby confirming that the policies of the energy policy can help a lot to curb the negative effects of inflation. To be more specific, policies like subsidies, feed-in tariffs, tax breaks are used to counter the increases in the cost of energy so that renewable energy projects are able to succeed even when prices are rising with inflation. Due to the inflationary pressures, the uncertainty in the energy markets increases, making it necessary to change policies to guarantee stability in the prices of energy and to secure energy security (Dong et al., 2025). This supports the importance of inflation in determining the energy policies, particularly in economy with high inflation rates.

H2: Foreign direct investment (FDI) significantly influences energy policy.

The results of the study support hypothesis 2 because FDI does have a significant role playing on energy policy. The outcomes of the present study have demonstrated that foreign direct investment (FDI) does not only afford some much needed financial capital but is also instrumental in spearheading the formulation of desirable energy policies. This substantiates the works of Viglioni et al. (2025) and Caetano et al. (2022) who have indicated that FDI spurs the establishment of policies including tax incentives, subsidies, and long-term contracts that are established to promote the development of renewable energy projects. This regression model coefficient of FDI 1.842 ($p = 0.042$), shows that there is a positive statistically significant relationship between FDI and renewable energy growth that ultimately agrees with the importance of FDI in developing renewable energy industries. Similar to Dong et al. (2025), the researches considered that governments especially developing nations tend to change their energy policies in order to make foreign investors find it more appealing to invest in their economy. The renewable energy growth had a strong and statistically significant positive correlation in energy policy variable where the coefficient was 0.498 ($p < 0.001$) in the random-effects model.

H3: Energy policy mediates the relationship between the inflation rate and renewable energy growth (REG)

Hypothesis 3, based on the assumption that energy policy acted as an intermediary between inflation and renewable energy growth, was supported by the mediation analysis. Its findings demonstrate that renewable energy initiatives can be offset on account of the cost-negative impacts of inflation by the energy policies, including feed-in tariffs and tax breaks (Zhang et al., 2021). Flat and predictable energy policies can serve to give the much needed confidence to the investors to make long term investment in any renewable energy despite inflation. Commenting on the need to balance the augmented expenses due to inflation as Caetano et al. (2022) noted, such policies contribute to promoting additional development of the renewable energy industry. The evidence confirms that the energy policy plays an important role in mitigating the negative effects of inflation and ensuring the development of renewable energy sources.

H4: Political stability moderates the relationship between the inflation rate and energy policy

Lastly, the findings of this study support Hypothesis 4 in that there is evidence to support that political stability moderates the relation between inflation and energy policy. Political stability

helps the governments to make the proper energy policy which can be constant and effective even during inflationary pressure (Salma & Khan, 2023). Long-term planning and policy enactment to mitigate the effects of inflation on energy firms are only possible in stable political environments (Falcone, 2023). Instead, political instability also adds to the ill-effects of inflation causing unstable and volatile decisions on policy. Our research is an affirmation of the fact that political stability is critical in developing a predictable and steady environment within which energy policies can be used successfully to manage inflationary pressure.

Findings and Implications

The results of this paper are useful in analyzing the dynamics of the renewable energy development in developing economies. Inflation proves to be a major deterrent to the development of renewable energy and this is especially the case as it affects the costs and investor confidence as well as energy policies. Nonetheless, energy policies have a significant role to counteract these ill effects hence are required in ensuring sustainable development in the renewable energy industry. It is in conjunction with the positive relation involving FDI and energy policy that further emphasizes the significance of foreign investments in fueling the growth of renewable energy although this is dependent on the existence of favorable energy policies.

These results are of significant use to the policymakers. In order to create a growth of renewable energy, especially in the inflationary countries, there is a need to have stable and long term energy policies, where incentives to investment is created by way of subsidies, feed-in tariffs and tax breaks. In addition, the political stability would be a major aspect that would make such policies effective. The issue involves countries that want to encourage foreign investment in renewable energy sector to ensure that they focus on political stability and an enviable policy environment that promotes long term investments.

Conclusion

In summary, the paper highlights that the relationship among inflation, energy policy, FDI, and political stability is very complex and contributes to the development of renewable energy. The findings indicate that even though inflation is a major issue, which continues to affect the development of renewable energy, it is possible to counter the adverse effects through energy policies, FDI, and political stability. With such dynamics in mind, policy makers would be better

equipped to create policies to help in the development of renewable energy, especially in the developing economies, where such dynamics have a tendency of being the greatest. The results also highlight how the energy policy is crucial in supporting the low-carbon future of energy which is sustainable.

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