


Chapter 9

Sustainable Finance and Climate Stability: The Impact of ESG and Green Bonds

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ABSTRACT

The urgency of climate change has placed financial markets in a position to lead the sustainability transition. Green financial products—such as green bonds, Environmental, Social, and Governance (ESG) frameworks, and generally, sustainable finance—are becoming one of the most important approaches to leveraging finance for low-carbon resilience. This chapter argues that these finance products

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are climate risk management tools, as they link finance flows to climate outcomes, incentivize responsible investment, and transparently disclose market actions and outcomes. The chapter examines asymmetrical growth and future potential in financing renewable energy and climate-resilient infrastructure via green bonds and how ESG practices are applied in capital decisions and corporate governance. Furthermore, the chapter argues that sustainable finance can reduce exposure to climate risks while creating opportunities for innovation, resilient business practices, and value-generating results in global markets.

1. INTRODUCTION

The increasing threat of climate change has shifted environmental issues from the fringes to the heart of global financial stability. Climate change is now seen not merely as an environmental or social issue, but as a genuine financial risk that can disrupt supply chains, erode asset values, and disrupt entire economies, while creating new opportunities for innovation, technological upgrades, and value creation in the shift to low-carbon, climate-resilient growth. Within this context, sustainable finance has emerged as an important framework for directing capital toward projects and organizations with environmental and social aims; in this new finance system, the two main instruments that have become core to, and very much part of, the new financial models that are influencing investment thought, and corporate behavior, are the Environmental, Social and Governance (ESG) frameworks, and green bonds (Arifin et al., 2024).

1.1 Background: Climate Change as a Financial Risk and Opportunity

Climate change can no longer be seen as an academic argument, or an environmental movement issue, it is now financial risk with real and tangible implications for the actions and actors of global markets, national economies, and investment thought, at which point individual (the investor) and societal ties will also become part of the decision-making considerations. The frequency and severity of events listing climate change impacts such as hurricanes, floods, droughts, and wildfires are threatening business continuity, disrupting infrastructure, and creating volatility in commodity prices. The physical risk associated with climate change will generate significant financial loss to reduce asset values, increase regulatory and insurance liabilities, and raise the cost of capital for economically vulnerable sectors. For example, energy-intensive sectors, agriculture, and property development are particularly vulnerable to acute weather shocks and increasingly stringent envi-

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