


# Chapter 7

## Aligning Green Finance With Climate Governance: Strategies for Mitigating Global Warming

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### ABSTRACT

*Green finance plays a pivotal role in aligning financial systems with climate policy objectives to mitigate global warming. This chapter examines strategies that integrate green finance with regulatory frameworks, ensuring that capital flows support climate resilience and sustainability. It explores mechanisms such as green bonds, sustainability-linked loans, carbon pricing, and public-private partnerships to mobilize investments toward low-carbon technologies. Additionally, the chapter highlights the role of financial institutions in promoting climate disclosure and risk assessment while addressing challenges like greenwashing and policy misalignment. Case studies illustrate successful implementations of green finance policies in different jurisdictions, offering insights into best practices and regulatory advancements. By fostering collaboration between governments, financial markets, and international organizations, green finance can accelerate the transition toward a net-zero economy.*

### INTRODUCTION

Global warming remains one of the most pressing challenges of the 21st century, posing severe risks to ecosystems, economies, and human societies. The steady increase in global temperatures is largely driven by anthropogenic activities,

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primarily the burning of fossil fuels, deforestation, and industrial processes that release greenhouse gases (GHGs) such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O) into the atmosphere (Abbas et al., 2022). According to the Intergovernmental Panel on Climate Change (IPCC), global surface temperatures have risen by approximately 1.1°C above pre-industrial levels, with projections indicating a continued rise unless significant mitigation measures are implemented (Forster et al. 2023).

The consequences of global warming manifest in more frequent and severe climate-related disasters, including hurricanes, wildfires, droughts, and heatwaves. Additionally, rising sea levels threaten coastal communities, and biodiversity loss accelerates due to shifting climate conditions. Beyond environmental impacts, climate change exacerbates socio-economic inequalities, disproportionately affecting vulnerable populations in developing nations (Ciscar et al., 2011). These challenges necessitate immediate and comprehensive action, integrating policy measures, technological advancements, and financial strategies to mitigate and adapt to climate change. Addressing global warming requires a systemic transition from fossil fuel-dependent economies to sustainable, low-carbon models (Dwivedi et al., 2022). While technological innovations and regulatory frameworks play crucial roles, the availability of adequate financial resources is fundamental to achieving this transition. Green finance emerges as a key instrument in mobilizing capital towards sustainable projects, reducing carbon footprints, and aligning economic growth with climate objectives (Fu et al., 2023).

Green finance encompasses a broad spectrum of financial instruments and investment strategies designed to support environmentally sustainable projects. It includes green bonds, climate funds, sustainability-linked loans, carbon pricing mechanisms, and impact investing, all of which contribute to reducing GHG emissions and promoting sustainable economic development (Mohd & Kaushal, 2018). The fundamental objective of green finance is to channel financial resources towards activities that foster resilience to climate change and accelerate the transition to a low-carbon economy. One of the most significant aspects of green finance is its ability to fund renewable energy projects, such as solar, wind, and hydroelectric power. Transitioning from fossil fuels to renewable energy sources is imperative for mitigating climate change, as energy production accounts for a substantial proportion of global carbon emissions. Investment in clean energy not only reduces emissions but also enhances energy security, creates job opportunities, and fosters economic stability (Dai & Xiong, 2023).

Additionally, green finance plays a crucial role in supporting climate-resilient infrastructure. Infrastructure such as flood defenses, sustainable transport systems, and energy-efficient buildings are essential for adapting to the impacts of climate change while simultaneously reducing carbon footprints. Financial institutions and

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