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**CLIMATE FINANCE TRACKING AND REPORTING FOR KENYA'S
NATIONALLY DETERMINED CONTRIBUTION IMPLEMENTATION: FOCUS ON
THE ENERGY SECTOR**

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89554

**THIS RESEARCH DISSERTATION IS SUBMITTED IN PARTIAL FULFILMENT
OF THE REQUIREMENTS OF THE AWARD OF A MASTER IN PUBLIC POLICY
AND MANAGEMENT OF STRATHMORE UNIVERSITY**



STRATHMORE BUSINESS SCHOOL

STRATHMORE UNIVERSITY

NAIROBI, KENYA

JUNE 2026

DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the dissertation contains no material previously published or written by another person except where due reference is made in the dissertation itself.

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ABSTRACT

Climate finance plays a critical role in enabling countries to meet their climate commitments under the Paris Agreement. However, developing countries such as Kenya continue to face persistent challenges in tracking, reporting, and aligning financial flows with their Nationally Determined Contributions (NDCs). This study explored the effectiveness of climate finance tracking and reporting mechanisms in Kenya's energy sector, with a specific focus on how well climate finance flows align with national NDC targets and the institutional factors influencing this process. Specifically, the study sought to: explore the institutional, technical, and coordination factors influencing climate finance tracking and reporting in Kenya, examine the effectiveness of climate finance tracking and reporting mechanisms within the energy sector and assess the extent to which climate finance flows align with Kenya's energy sector NDC commitments. The study was grounded in Public Goods Theory and Public Choice Theory, which provided a conceptual lens for understanding coordination, accountability, and collective action in climate finance governance. A qualitative research design was adopted, combining primary and secondary data sources. Primary data was collected through key informant interviews to purposively selected stakeholders from the Ministry of Energy and Petroleum, Ministry of Environment, Climate Change and Forestry, National Treasury, Climate Finance Units, development partners, and climate-focused NGOs. A total of 15 respondents participated in the study. Data was analyzed using thematic content analysis to identify patterns, gaps, and institutional dynamics influencing climate finance tracking and reporting systems in Kenya's energy sector. The findings reveal that while Kenya has made significant progress in establishing policy and institutional frameworks for climate finance, tracking and reporting mechanisms remain fragmented and partially effective. Alignment with NDCs is evident at the planning and implementation levels but is weakly reflected in financial tracking systems. Key challenges include institutional fragmentation, methodological inconsistencies, limited technical capacity, weak stakeholder coordination, and incomplete capture of private sector climate finance flows. The study concludes that strengthening integrated tracking systems, standardizing methodologies, and enhancing coordination mechanisms are critical for improving transparency, accountability, and effectiveness in climate finance governance.

Keywords: *Climate finance, tracking and reporting, Nationally Determined Contributions (NDCs), energy sector, Kenya, Public Goods and Public Choice Theory, climate governance.*

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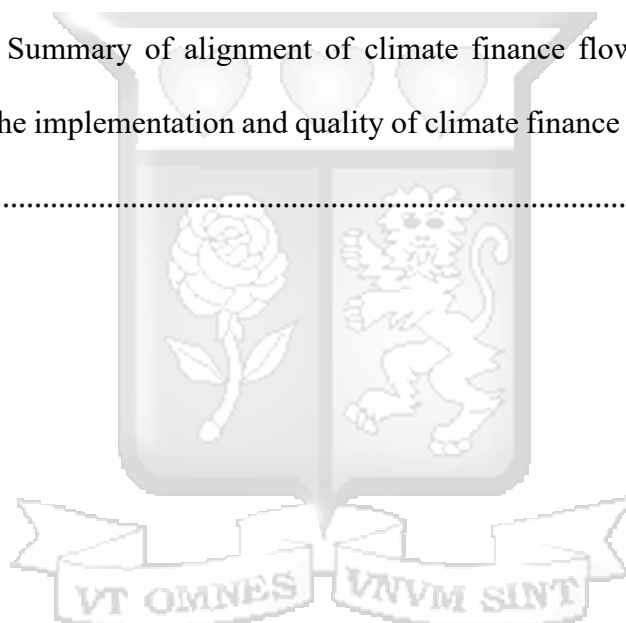
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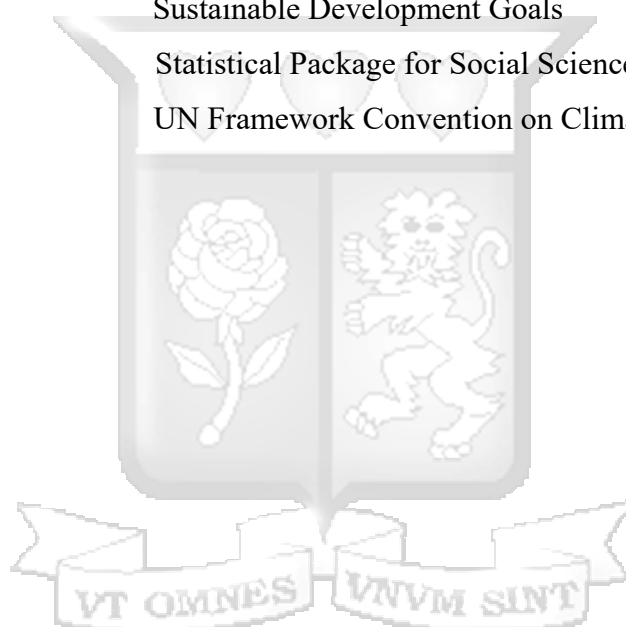
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LIST OF ABBREVIATIONS

CFT	Climate Finance Tracking
CFU	Climate Finance Unit
CPI	Climate Policy Initiative
GCF	Green Climate Fund
GEF	Global Environment Facility
NAP	National Adaptation Plan
NCCAP	National Climate Change Action Plan
NDC	Nationally Determined Contribution
OECD	Organization for Economic Co-operation and Development
SDG	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
UNFCCC	UN Framework Convention on Climate Change



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CHAPTER ONE: INTRODUCTION THE STUDY

1.1 Introduction

This chapter took an in-depth review on the background of the topic, discussed the problem statement while identifying the gap of the study and highlighted research objectives, scope of the study, justification of the study and the significance of the study.

1.2 Background of the Study

Climate change has increasingly reshaped global development priorities, with governments and development partners recognizing that the effectiveness of climate action depends not only on the volume of climate finance mobilized but also on how transparently such finance is tracked and reported (UNFCCC, 2023). In recent years, global climate finance flows have expanded substantially, reaching approximately USD 1.9 trillion in 2023, largely driven by mitigation investments in the energy sector (Climate Policy Initiative, 2025). Similarly, clean energy investments are projected to exceed USD 2.2 trillion by 2025, reflecting the growing centrality of energy systems in achieving global climate goals (International Energy Agency, 2025). Despite this growth, empirical evidence suggests that improvements in climate finance volumes have not been matched by comparable advances in tracking and reporting quality, raising concerns about transparency, accountability, and alignment with nationally determined climate commitments (OECD, 2022; UNFCCC, 2023).

At the global level, empirical studies present mixed findings on the effectiveness of climate finance tracking and reporting systems. On the one hand, initiatives led by institutions such as the Climate Policy Initiative and multilateral climate funds have improved data availability and methodological sophistication, enabling better estimation of global climate finance flows (CPI, 2018; Buchner et al., 2023). On the other hand, several studies highlight persistent inconsistencies in definitions, reporting standards, and disclosure practices across countries and funding institutions, which limit data comparability and undermine comprehensive assessment of climate finance effectiveness (OECD, 2022; Hussain et al., 2021). For instance, while some countries publish detailed climate finance reports, others provide fragmented or incomplete data, resulting in uneven transparency and weak accountability mechanisms (UNFCCC, 2023). These mixed findings indicate that progress in climate finance tracking is uneven and context-dependent, rather than systematic and universal.

OECD climate finance data particularly through the Development Assistance Committee (DAC) “Rio Markers”—and UNFCCC Biennial Transparency Reports (BTRs) provide

complementary frameworks for tracking climate finance at both global and country levels. The OECD Rio Markers system tracks bilateral and some multilateral public climate-related finance flows, classifying development finance activities based on whether climate mitigation or adaptation is a principal or significant objective. This helps in generating systematic, activity-level data across sectors and countries and enabling aggregation of global trends as well as analysis of individual donor contributions. In contrast, Biennial Transparency Reports established under the Paris Agreement's Enhanced Transparency Framework require countries to report nationally on climate finance provided, mobilized, needed, and received, in addition to mitigation and adaptation actions, using standardized reporting formats that are subject to technical expert review to ensure credibility and comparability (Buchner et al., 2011; UNFCCC, 2024).

At the regional level, particularly in Africa and other developing regions, empirical literature similarly reports contradictory outcomes. Some studies document progress through the adoption of tools such as Climate Public Expenditure and Institutional Reviews (CPEIRs) and climate budget tagging, which have enhanced the visibility of climate-related expenditures in public financial management systems (World Resources Institute [WRI], 2021). However, other empirical analyses reveal that these tools are often constrained by limited institutional capacity, weak inter-agency coordination, and lack of harmonized methodologies, leading to inconsistencies in how climate finance is classified and reported across sectors and countries (Hussain et al., 2021; Buchner et al., 2023). As a result, although tracking mechanisms exist on paper, their effectiveness in informing policy decisions and improving climate finance governance remains contested across the region (WRI, 2022).

In the Kenyan context, efforts to strengthen climate finance tracking and reporting have intensified over the past decade. Kenya has introduced policy and institutional instruments such as the Climate Change Act (2016), the Climate Finance Policy (2018), Climate Budget Tagging (CBT), and the integration of climate codes within the Integrated Financial Management Information System (IFMIS) to enhance transparency and accountability (National Treasury, 2018, 2020; World Bank, 2023). Empirical studies provide mixed evidence regarding the effectiveness of these mechanisms. While some studies find that CBT has improved the identification and reporting of climate-related expenditures within national budgets (Kiremu et al., 2022), others highlight persistent challenges related to data fragmentation, limited technical capacity, and weak enforcement across ministries and sectors, which undermine the reliability and usability of reported climate finance data (Njuguna, 2024; World Bank, 2023).

These weaknesses are particularly evident in the energy sector, which is both Kenya's largest recipient of mitigation finance and a central pillar of its Nationally Determined Contribution (NDC) implementation strategy (Government of Kenya, 2021). Despite substantial investments in renewable energy and low-carbon infrastructure, empirical evidence on how effectively climate finance in the energy sector is tracked and reported remains limited. Existing studies tend to focus on aggregate climate finance flows or national-level systems, with insufficient sector-specific analysis linking tracking and reporting practices to institutional and governance factors (CPI, 2018; Kiremu et al., 2022). This creates a critical gap in understanding how climate finance governance functions in practice within key sectors.

Overall, the empirical literature reveals three key gaps. First, there is limited consensus on what constitutes effective climate finance tracking and reporting, resulting in divergent empirical findings across contexts (OECD, 2022). Secondly, few studies systematically examine the factors influencing effectiveness, such as institutional arrangements, coordination mechanisms, and reporting capacity, particularly at the sectoral level (Hussain et al., 2021). Third, in Kenya, there is limited empirical research focusing specifically on the energy sector, despite its strategic importance for climate mitigation and adaptation (GoK, 2021).

This study, therefore, sought to address these gaps by examining the factors influencing effective climate finance tracking and reporting in Kenya's energy sector. By adopting a sector-specific and institutional focus, the aim of the study was to contribute empirical evidence that moves beyond descriptive assessments of climate finance volumes to explain why tracking and reporting systems perform unevenly. In doing so, the study responds directly to gaps identified in global, regional, and local literature and provides policy-relevant insights to strengthen climate finance governance and support effective NDC implementation in Kenya.

1.2.1 Climate Finance Tracking and Reporting

Climate finance tracking and reporting fall squarely within the frameworks of the UNFCCC and the Paris Agreement, which emphasize transparency, accountability, and comparability of financial flows. Under the Paris Agreement's Enhanced Transparency Framework (ETF), countries are required to provide biennial reports on both climate finance provided and received, a mechanism designed to strengthen trust and assess progress toward the collective goal of mobilizing USD 100 billion annually from developed to developing countries (UNFCCC, 2015). At the global level, institutions such as the OECD and the Climate Policy Initiative (CPI) complement UNFCCC processes by tracking international climate finance

flows, producing datasets and reports that inform negotiations and policymaking (Buchner et al., 2023). While these mechanisms have enhanced global accountability, challenges remain, particularly regarding harmonization of definitions, inconsistent methodologies, and limited comparability across national systems (OECD, 2022).

Regionally, Africa faces significant barriers to effective tracking and reporting, with only about 2% of global climate finance reaching the continent despite its pressing needs. To meet its Nationally Determined Contributions (NDCs), Africa requires an estimated USD 2.8 trillion by 2030, yet in 2021 it mobilized only USD 30 billion, about 11% of its annual requirement (Buchner et al., 2023). Positive steps include regional initiatives such as the African Development Bank's Africa Climate Change Fund, which works to improve access, strengthen reporting systems, and build institutional capacity. However, inadequate technical expertise, weak institutional arrangements, and fragmented data collection continue to constrain progress (Hussain et al., 2021).

At a subregional level, East African countries including Kenya, Uganda, and Tanzania have initiated systems to track climate finance flows and incorporate them into budgetary and policy frameworks. Despite this progress, resource limitations and over-reliance on international climate finance undermine the robustness of climate finance tracking and reporting in several ways. Moreover, East African states often prioritize adaptation finance due to their vulnerability to climate-induced disasters such as droughts and floods (Belianska et al., 2022). Regional frameworks such as the East African Community Climate Change Master Plan and partnerships with entities like the Green Climate Fund and Climate Policy Initiative have improved coordination, though challenges of capacity, data quality, and institutional coherence persist (East African Community, 2019; Njuguna, 2024).

1.2.2 Climate Financing Framework, Tracking and Reporting in Kenya

Kenya, as a signatory to the UNFCCC and the Paris Agreement, has domesticated these commitments through national policies, laws, and institutional arrangements. The Climate Change Act (2016) and the Climate Finance Policy (2017) provides the legal framework for climate finance governance. The Climate Finance Policy establishes governance structures and delineates roles across national and county levels, mandating the National treasury to play a central role in mobilizing, coordination and managing climate finance flows, including establishing mechanisms to track, monitor and report on sources and utilization of climate finance. In addition, the Act provides for a national Climate Change Council to coordinate

climate actions across ministries and agencies, ensuring that climate finance is mainstreamed into planning, budgeting and implementation processes.

Strategic instruments such as the National Climate Change Response Strategy (NCCRS), the National Climate Change Action Plan (NCCAP), and the Climate Finance Policy (2018) align national priorities with international obligations while enhancing access to external resources (National Treasury, 2018). These frameworks are directly linked to Kenya's Nationally Determined Contributions (NDCs), which estimate a financing requirement of USD 62 billion by 2030, with approximately 87% expected from international sources (GoK, 2021).

Kenya has made progress in climate finance tracking and reporting, with Climate Budget Tagging (CBT) within IFMIS enabling the identification and reporting of climate-related expenditures across ministries and agencies (National Treasury, 2020). The PEFA Climate Responsive Public Financial Management assessment highlights notable improvements at the national level in embedding climate considerations into public financial management (PEFA, 2023). However, it also identifies persistent weaknesses in the consistency, completeness, and quality of climate finance reporting across sectors and county governments, largely due to capacity and coordination challenges. These insights underscore the need to address institutional and technical factors to enhance the effectiveness of climate finance tracking and reporting.

Kenya mobilizes climate finance from diverse channels. Public sector funding includes budgetary allocations targeting key climate-sensitive sectors such as agriculture, water, and energy. Initiatives such as the National Environment Trust Fund (NETFUND) and the Kenya Climate Smart Agriculture Project (KCSAP) are co-financed through domestic resources and external support. Externally, Kenya benefits from bilateral development partnership with countries such as the UK, Germany, and Sweden, who fund various climate initiatives in Kenya, particularly in areas like renewable energy, afforestation, and institutional capacity building (UNDP, 2023). On the multilateral front, Kenya has accessed funding from the Green Climate Fund (GCF), the Climate Investment Funds (CIFs), the Global Environment Facility (GEF), and the African Development Bank (AfDB), financing large-scale adaptation and mitigation initiatives (AfDB, 2024).

The private sector has also become a significant player, illustrated by Kenya's first green bond in 2019 for sustainable housing and growing investments in solar and geothermal projects

supported by favorable regulatory frameworks (NSE, 2023). Private sector plays an increasingly important role within Kenya's climate finance architecture with the government coming up with national policies such as the Green Fiscal Incentive policy framework with an explicit aim to encourage private sector participation in climate relevant financing opportunities" and to mobilize finance from diverse sources, including private investors, multilateral institutions, and blended finance mechanisms. Financial sector actors such as commercial banks, investors, and industry associations collaborate with government through platforms like the Kenya Private Sector Alliance (KEPSA) and green finance initiatives to scale investments in renewable energy, climate-smart agriculture, and resilience-building projects.

In terms of trends, Kenya's climate financing reflects a blend of external and domestic sources, with external flows playing a dominant role due to the high financing gap. In 2021, international climate finance constituted the majority of inflows to support Kenya's NDC implementation, while national allocations have been steadily mainstreamed into sectoral budgets (GoK, 2021). County-level mechanisms, such as the County Climate Change Funds (CCCFs), represent a progressive trend in devolving climate finance and ensuring community participation in decision-making (ACT, 2022). Kenya is also engaging in carbon market mechanisms, including REDD+ programs, to leverage results-based financing and attract international carbon finance (FAO, 2023).

Within the Public Finance Management (PFM) framework, climate finance tracking and reporting are embedded in Kenya's broader fiscal accountability systems. The Integrated Financial Management Information System (IFMIS) and annual budget performance reports ensure that climate expenditures are integrated into mainstream planning and reporting cycles (National Treasury, 2018; World Bank, 2023). The Monitoring, Reporting, and Verification (MRV) system, aligned with the Paris Agreement's Enhanced Transparency Framework, complements PFM processes by tracking greenhouse gas emissions, mitigation and adaptation actions, and climate finance received and spent (UNFCCC, 2022; UNEP, 2023). Together, these interlinked systems of policy, planning, budgeting, and reporting enhance transparency, strengthen domestic accountability, and demonstrate compliance with international obligations, positioning Kenya as a leader in climate finance governance in Africa.

1.2.3 Kenya's Nationally Determined Contributions (NDC) and Action Plans

Kenya's Nationally Determined Contributions (NDCs) are central to its climate policy and financing framework, serving as both a blueprint for climate action and a benchmark for mobilizing and allocating climate finance. As a signatory to the Paris Agreement, Kenya submitted its first NDC in 2016 and updated it in 2020 and 2021, committing to reduce its greenhouse gas emissions by 32% by 2030 relative to the business-as-usual scenario, through both mitigation and adaptation actions (GoK, 2021). Achieving these commitments requires substantial financial resources, and climate finance is therefore the critical enabler of NDC implementation. The National Climate Change Action Plan (NCCAP) 2018–2022, currently being updated for 2023–2027, translates NDC commitments into sector-specific strategies across energy, agriculture, water, forestry, and health, creating the framework within which climate finance must be mobilized and disbursed (Ministry of Environment, 2021).

Climate finance in Kenya flows through multiple channels but is primarily governed by the Public Finance Management (PFM) framework, which ensures accountability and alignment with national budgeting processes. International funds such as those from the Green Climate Fund (GCF), bilateral donors, or multilateral development banks, alongside domestic allocations are typically channeled through the National Treasury and directed toward priority NDC-aligned programs (National Treasury, 2024). Tools like Climate Budget Tagging (CBT) and decentralized mechanisms such as the County Climate Change Fund (CCCCF) further strengthen the link between NDC priorities and financial flows by enabling systematic tracking, transparency, and participatory planning (World Bank, 2023). In this way, climate finance is not separate from Kenya's NDCs but rather the financial mechanism that operationalizes them, bridging policy ambitions with practical, measurable climate action (Buchner et al., 2023).

1.3 Statement of the Problem

Developing countries, including Kenya, continue to struggle with effectively tracking and reporting climate finance, which undermines efforts to monitor progress, ensure accountability, and align financial flows with national and international climate priorities. Kenya's ratification of the Paris Agreement commits it to submit comprehensive and comparable data on greenhouse gas emissions, climate finance received, and progress on mitigation and adaptation under the Enhanced Transparency Framework (ETF) obligations that demand robust tracking and reporting systems (Odhengo et al., 2019; Kiremu et al., 2022; Omala, Kioko & Gravesen, 2024).

Kenya has established several policies and institutional mechanisms to support climate finance governance, including the Climate Change Act (2016), the National Climate Change Action Plan (NCCAP 2018-2022), IFMIS-based climate budget coding, and Circular No. 13-2020 mandating quarterly climate expenditure reports (Government of Kenya, 2018; National Treasury, 2020). Instruments such as Climate Budget Tagging (CBT) and Climate Public Expenditure and Institutional Review (CPEIR) aim to enhance expenditure transparency. Despite these frameworks, practical implementation challenges persist.

Evidence from the PEFA Climate Responsive Public Financial Management (CRPFM) assessment (2023) indicates that while Kenya has made progress in mainstreaming climate into public financial management, tracking climate-related expenditure and reporting remains weak, with gaps in data consistency, completeness, and disclosure of climate expenditures in budget execution reports. The CRPFM findings highlight that information on planned climate expenditure is better captured than actual expenditure, and publishing performance information tied to climate objectives is limited, constraining oversight and strategic resource allocation.

Studies like Kiremu et al. (2022) also note weak enforcement of Circular No. 13-2020, institutional coordination bottlenecks, and inadequate data-sharing frameworks that contribute to fragmented and unreliable reporting. These gaps compromise both domestic planning and international accountability, risking resource misallocation, reduced credibility with development partners, and potential loss of access to critical climate finance. Moreover, the lack of a harmonized, needs-based allocation and reporting framework, especially in priority sectors such as energy that receive significant climate finance, further undermines Kenya's ability to meet its ETF and NDC commitments (CPI, 2018; Njuguna, 2024). This provides an opportunity for studies on how things are shaping up by critically examine the implementation, institutional capacities, and coordination mechanisms underpinning Kenya's climate finance tracking and reporting systems.

This study sought to explore the climate finance and tracking landscape in Kenya's towards attaining achievement of Kenya's NDCs. The study focuses on the Energy sector which plays a critical role towards meeting our Climate goals. This is a study that may provide evidence-based recommendations to enhance Kenya's ability to accurately track, transparently report, and strategically allocate climate finance, thereby strengthening both national resilience and compliance with global transparency obligations.

1.4 Objective of the Study

The general objective of the study was to explore climate finance tracking and reporting for the implementation of Kenya's Nationally Determined Contributions (NDCs), with a specific focus on the energy sector.

1.4.1 Specific Objectives

The specific objectives of the study were:

- i. To explore the institutional, technical, and coordination factors influencing climate finance tracking and reporting in Kenya.
- ii. To examine the effectiveness of climate finance tracking and reporting mechanisms within the energy sector.
- iii. To investigate how the alignment of climate finance flows with Kenya's NDC commitments shapes the implementation and quality of climate finance tracking and reporting.

1.5 Research Questions

- i. To what extent are the institutional, technical and coordination measures in place, affecting the effective tracking of climate finance in Kenya's energy sector?
- ii. How does transparency, accountability, and stakeholder coordination challenges affect the accuracy and reliability of climate finance tracking in Kenya's energy sector?
- iii. How does the alignment of climate finance flows with Kenya's NDC commitments influence the effectiveness of climate finance tracking and reporting?

1.6 Scope of the Study

This study focused on evaluating climate finance in Kenya, with a particular emphasis on the energy sector. The energy sector was chosen because it accounts for a significant share of greenhouse gas emissions and remains central to Kenya's transition toward a low-carbon and climate-resilient economy. Investments in renewable energy, energy efficiency, and clean technologies are not only critical for achieving Kenya's nationally determined contributions (NDCs) but also for driving sustainable economic growth and energy security. By narrowing the scope to the energy sector, the study provides more targeted insights into the adequacy, allocation, and effectiveness of climate finance flows in supporting Kenya's climate and development goals. The research aimed to provide insights relevant to policymakers, planners, and stakeholders to better understand climate finance flows and design effective financing strategies towards meeting our nationally determined contributions. The study encompasses an

extensive literature review concerning climate change, nationally determined contributions, and public climate finance, and the ramifications of failing to track and report climate finance flows. It will further examine exemplary sustainable practices and propose a meticulously designed research methodology to support its findings and recommendations. The study will be carried out between February 2026 and April 2026.

1.7 Significance of the Study

This study is relevant to various stakeholders such as policy makers, the Kenyan government, and public and private organizations directly involved in implementation of climate change mitigation initiatives.

1.7.1 Policymakers

For policymakers, the study provides data-driven insights into existing challenges and gaps in climate finance tracking. With this knowledge, policymakers can create evidence-based frameworks and regulations to improve transparency and accountability, ensuring that climate funds are used effectively to meet Kenya's climate goals. Additionally, improved finance tracking ensures Kenya's compliance with international climate agreements like the Paris Agreement and bolster the nation's position in global climate negotiations.

1.7.2 Government of Kenya

This study supports strategic decision-making in resource allocation and strengthen institutional arrangements for climate finance management within the government. By highlighting areas needing capacity building or systemic improvements, the government can enhance its efficiency in mobilizing and utilizing climate funds. This is particularly critical given Kenya's vulnerability to climate impacts and the substantial funding required to address these challenges.

1.7.3 Public and Private Organizations

Public and private organizations engaged in climate change mitigation stand to benefit from a more transparent and robust climate finance tracking system. Such a system enhances the credibility and effectiveness of their initiatives, attracting potential investors and partners. By demonstrating adherence to financial transparency and accountability, these organizations can strengthen partnerships with international climate finance entities, fostering sustainable development and climate resilience in Kenya.

1.8 Chapter Summary

This chapter introduced the context and significance of the study, delineated the problem statement and research objectives, and highlighted the research questions. It also established the rationale for focusing on the energy sector, given its pivotal role in reducing greenhouse gas emissions and advancing Kenya's transition toward a low-carbon and climate-resilient economy. The subsequent chapters will delve into an extensive literature review on climate finance with particular attention to the energy sector, explore innovative strategies for sustainability, and propose a comprehensive research methodology. The goal of the study is to facilitate the effective tracking and reporting of climate related financial inflows in the energy sector as a pathway towards achieving Kenya's nationally determined contributions (NDCs).



CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter was the foundation of this study offering a review of the theoretical and empirical literature on climate financing. It begins by examining theories underpinning the study followed by an examination of global, regional, and local empirical literature on trends in climate financing and challenges faced in tracking and reporting of climate finance by the public sector, highlighting existing gaps that this study intends to fill and the operationalization of the variables in the study.

2.2 Theoretical Review

In this section, two main theories: the public goods theory and public choice theory will be examined to form a foundation for the study. This section will discuss the origins, development, assumptions, criticisms and relevance of the theories to the study.

2.2.1 The Public Goods Theory

The concept of public goods was proposed by Economist Paul A. Samuelson in his landmark work "The Pure Theory of Public Expenditure" in 1954. According to his definition, a public good is any product that, once produced, can be used by more people freely (Samuelson, 1954). Erik Lindahl (1919), who suggested a way to finance public goods based on the benefits gained by each individual, served as the foundation for his idea. Four fundamental assumptions form the basis of the theory. The first premise is non-excludability, which states that once something is created, it is impossible to prevent people from profiting from it. The second premise is non-rivalry, which states that the intake of one individual does not deplete the quantity accessible for others (Goldin, 2024). The third assumption of the theory is that private markets may underprovide public goods because they cannot easily charge beneficiaries, leading to free-rider problems. Lastly, to address under provision, government action is necessary to finance and regulate public goods, ensuring they are adequately supplied for societal welfare (Goldin, 2024).

Economists have developed the theory to handle a variety of problems in the supply of public goods, building on Samuelson's work. Charles Tiebout, for instance, proposed a model in 1956 that suggested a system where people "vote with their feet," by selecting jurisdictions that give their desired combination of taxes and public services, might effectively supply local public goods (Tiebout, 1956). This work demonstrated how local governments can accommodate a range of public goods choices. Additionally, it has expanded to include local, national, and

global public goods; because of its universal advantages, climate change prevention is now considered a global public good.

Despite its foundational status, the theory has faced several criticisms. Critics contend that the theory might undervalue the contribution of non-profits and the private sector to the provision of public goods. For instance, non-profit groups frequently fill gaps in the government's supply of public goods by meeting particular community needs (Kingma, 1997). Second, goods with mixed features and the complexity of real-world situations are not taken into consideration by the dichotomy of public and private goods. The theory's distinct categories are called into question by the fact that many items display partial excludability or rivalry (Holcombe, 1997). Lastly, according to Sandler and Tschirhart (1997), government provision doesn't always guarantee efficient allocation, as bureaucratic inefficiencies and lack of competition can lead to suboptimal outcomes. The theory thus provides an incomplete explanation of actual government spending and fails to address how governments can effectively provide these goods.

The Public Goods Theory is relevant in this study as it views climate change mitigation as a public good. Efforts to combat climate change are non-excludable and non-rivalrous; benefits such as reduced global warming impact everyone, and one individual's benefit does not reduce another's. This aligns with the theory's definition of public goods (Samuelson, 1954).

By framing climate finance as a public good, the theory justifies government intervention in financing, standardizing reporting frameworks, and enforcing compliance to reduce under-provision and inefficiencies. In Kenya, gaps in consistent climate expenditure reporting, limited enforcement of tracking directives, and fragmented institutional coordination (PEFA, 2023; Kiremu et al., 2022) illustrate where public goods theory can explain underperformance. This theoretical lens highlights why robust tracking and reporting systems are crucial for transparency, accountability, and equitable allocation of climate resources, particularly in sectors like energy that receive the bulk of climate finance.

2.2.2 Public Choice Theory

Public Choice Theory was developed by James Buchanan and Gordon Tullock in their seminal work *The Calculus of Consent* published in 1962. The theory emerged as a response to traditional public administration and welfare economics perspectives, which generally assumed that governments and public officials act solely in pursuit of the public interest. Buchanan and Tullock (1962) challenged this assumption by arguing that individuals within government

institutions behave in much the same way as actors in markets, seeking to maximize their own interests, preferences, and benefits. The theory applies economic reasoning to political decision-making and public administration, asserting that political actors, bureaucrats, legislators, and voters are rational individuals whose decisions are influenced by incentives and self-interest rather than purely altruistic motives (Buchanan & Tullock, 1962; Mueller, 2003).

The theory is founded on several key assumptions. First, individuals are rational utility maximizers who seek to advance their own interests regardless of whether they operate in public or private institutions (Buchanan & Tullock, 1962). Second, government officials and bureaucrats respond to incentives in ways similar to private-sector actors and may pursue objectives such as larger budgets, greater authority, job security, or political influence (Niskanen, 1971). Third, public decisions are shaped by collective choice processes that often involve competing interests, bargaining, and political negotiations rather than objective pursuit of societal welfare (Mueller, 2003). Finally, the theory assumes that information asymmetries and weak accountability mechanisms can create opportunities for inefficiency, rent-seeking, and resource misallocation within public institutions (Tullock, 1967).

Over time, Public Choice Theory has evolved beyond its original focus on voting behavior and collective decision-making to become a widely used framework for analyzing public expenditure management, governance, accountability, regulatory institutions, and public sector reforms. The theory has been particularly influential in explaining inefficiencies in government budgeting processes, public resource allocation, and institutional performance. Recent applications have extended its use to environmental governance and climate finance, where public institutions are responsible for mobilizing, allocating, tracking, and reporting climate-related expenditures (Buchanan, Tollison, & Tullock, 1980; Ostrom, 2010). In the context of climate finance, the theory provides a useful lens for understanding how institutional incentives and governance structures influence the effectiveness of climate finance management systems.

Public Choice Theory is highly relevant to the present study because it provides a framework for understanding the institutional, technical, and coordination factors influencing climate finance tracking and reporting in Kenya. In relation to the first objective, which seeks to determine the institutional, technical, and coordination factors influencing climate finance tracking and reporting, the theory explains how bureaucratic interests, institutional fragmentation, and competing agency priorities can undermine effective climate finance management. Climate finance in Kenya involves multiple actors, including the National

Treasury, the Ministry of Environment, county governments, development partners, and implementing agencies. According to Public Choice Theory, each institution may pursue its own organizational interests, resulting in weak coordination, duplication of responsibilities, and inconsistent reporting systems. Such behavior can negatively affect the effectiveness of climate finance tracking and reporting mechanisms.

The theory also informs the second objective, which seeks to examine the challenges affecting accurate and transparent climate finance reporting. Public Choice Theory argues that public officials may have incentives to manipulate, withhold, or selectively disclose information when accountability mechanisms are weak (Mueller, 2003). In climate finance management, information asymmetries, fragmented reporting structures, and inadequate oversight can result in inaccurate expenditure classifications, delayed reporting, and incomplete climate finance data. Consequently, transparency and accountability may be compromised, reducing stakeholders' ability to assess whether climate resources are being utilized effectively.

Furthermore, Public Choice Theory contributes to understanding the third objective, which examines the extent to which climate finance flows align with Kenya's Nationally Determined Contributions (NDCs). The theory suggests that public resource allocation decisions may be influenced by political considerations, bureaucratic preferences, and institutional interests rather than national development priorities (Buchanan & Tullock, 1962). As a result, climate finance may be directed toward projects that offer political visibility or institutional benefits instead of those that make the greatest contribution toward achieving NDC targets. This may lead to inefficiencies and misalignment between climate finance expenditures and Kenya's climate commitments.

Despite its significant contribution to understanding public sector behavior, Public Choice Theory has attracted considerable criticism. One major criticism is that the theory assumes individuals are predominantly motivated by self-interest and therefore underestimates the influence of professionalism, ethics, public service values, and commitment to societal welfare among public officials (Dunleavy, 1991). Critics argue that many government employees act out of a genuine desire to serve the public interest and that the theory presents an overly cynical view of public administration. Secondly, the theory tends to emphasize inefficiencies and failures in government institutions while paying insufficient attention to successful cases of public sector cooperation, innovation, and effective governance (Ostrom, 2010). Thirdly, critics contend that the theory focuses heavily on individual incentives and neglects broader social,

institutional, and cultural factors that shape public sector behavior and policy outcomes (Pierre & Peters, 2000). Consequently, while Public Choice Theory provides valuable insights into governance and accountability challenges, it offers only a partial explanation of climate finance management processes.

The limitations of Public Choice Theory justify the incorporation of Stakeholder Theory as a complementary theoretical perspective. While Public Choice Theory emphasizes self-interest, institutional incentives, and accountability challenges, Stakeholder Theory highlights the importance of collaboration, participation, and shared responsibility among diverse actors involved in climate finance governance. Climate finance tracking and reporting require cooperation among government agencies, development partners, civil society organizations, private sector actors, and local communities. Stakeholder Theory therefore complements Public Choice Theory by providing insights into how effective engagement and coordination among these actors can enhance transparency, accountability, and alignment of climate finance flows with national climate priorities.

2.3 Empirical review

2.3.1 Effectiveness of Climate Finance Tracking Mechanisms in the Energy Sector

The empirical literature on climate finance tracking mechanisms within the energy sector is characterized by a notable imbalance: while there is extensive discussion on climate finance mobilization and outcomes, relatively limited attention is devoted to the technical effectiveness, integrity, and comparability of tracking systems themselves. As a result, “tracking effectiveness” is often inferred indirectly from financing outcomes rather than being empirically isolated as a distinct analytical construct.

Chelminski (2022) provides a comparative case study of geothermal development in Indonesia and the Philippines, examining how climate finance interacts with institutional, regulatory, and technical barriers. The methodological approach, combining interviews, field research, and document analysis, offers rich contextual depth, particularly in understanding long-term energy transitions. However, the study is fundamentally oriented toward explaining project implementation success rather than interrogating climate finance tracking systems. In this sense, tracking is implicitly embedded within broader financing dynamics rather than explicitly conceptualized or measured. This creates a conceptual limitation, as it becomes difficult to distinguish between the effectiveness of finance delivery and the effectiveness of tracking mechanisms that monitor such flows. Moreover, the focus on two Southeast Asian cases limits

external validity, particularly for African energy governance contexts where institutional configurations differ significantly.

Similarly, Bhandary, Gallagher, and Zhang (2021) evaluate nine climate finance policy instruments using a combination of literature review and comparative case analysis. While the methodological triangulation strengthens breadth of coverage, the analytical focus remains primarily on policy effectiveness in mobilizing finance, rather than on the integrity of tracking or reporting systems. The study implicitly assumes that finance mobilization reflects policy success, yet this assumption is methodologically weak in contexts where financial inflows may not be accurately recorded, classified, or traced. Additionally, the heterogeneity of the nine instruments introduces comparability challenges, as institutional capacity differences across cases are not sufficiently controlled for, thereby limiting causal inference about what specifically drives effectiveness.

Bird et al. (2013) contributes a more structured institutional framework for analyzing national climate finance systems, focusing on financial management processes, institutional arrangements, and policy coordination mechanisms. Their intermediate-level analytical framework represents an important advancement in systematizing climate finance governance analysis. However, the framework remains macro-institutional and does not disaggregate sector-specific tracking architectures such as those within energy ministries, utilities, or sectoral budget systems. This omission is particularly important because energy-sector climate finance often flows through hybrid institutional arrangements that differ from general public financial management systems. Furthermore, the study predates the expansion of digital financial management systems, limiting its relevance in contexts where integrated systems such as IFMIS now shape tracking processes.

Odhengo et al. (2019) provide one of the few Africa-focused analyses of climate finance tracking systems, reviewing OECD, MDB, and NGO tracking methodologies. While the study is valuable in identifying definitional inconsistencies and institutional capacity constraints, its methodological approach is primarily desk-based and synthesis-oriented. As a result, it lacks empirical testing of how tracking systems function in practice within specific sectors or institutional environments. Although Kenya is included as a reference case, the analysis does not disaggregate energy-sector tracking systems from broader national reporting structures. This creates a significant analytical gap, as sector-specific tracking often involves distinct

coding systems, reporting lines, and verification processes that are not captured in national-level aggregation studies.

Taken together, these studies reveal a consistent empirical limitation: climate finance tracking is rarely treated as an independent analytical object. Instead, it is embedded within broader discussions of policy effectiveness, institutional capacity, or financing outcomes. This conflation obscures important analytical distinctions between (i) finance mobilization, (ii) financial allocation, and (iii) financial tracking accuracy. The current study responds to this gap by isolating and critically evaluating tracking mechanisms within Kenya's energy sector.

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2.3.2 Institutional, Technical and Coordination factors influencing Climate finance tracking and reporting

The literature on climate finance reporting transparency reveals deeper structural and epistemological challenges related to standardization, comparability, institutional incentives, and measurement validity. Rather than being a purely technical issue, transparency emerges as a contested outcome shaped by methodological inconsistencies and governance constraints.

Bergsvik et al. (2024) critically assess transparency mechanisms under the UNFCCC framework, focusing on whether reporting and review processes improve clarity in climate finance disclosures. Their qualitative analysis of official reports highlights persistent inconsistencies in definitions, classifications, and reporting formats across countries. While methodologically rigorous in document analysis, the study remains limited in its inability to capture the political and institutional processes that shape reporting behavior prior to submission. Consequently, transparency is treated primarily as a reporting output problem rather than a governance process embedded in national political economy dynamics.

Bhandary et al. (2021), while focusing on policy effectiveness in mobilizing climate finance, indirectly highlight reporting challenges linked to administrative complexity and institutional capacity constraints. However, the study does not systematically isolate transparency as an independent variable, nor does it examine how reporting systems distort or mediate observed financial flows. This reflects a broader limitation in climate finance literature where transparency is treated as a secondary outcome of policy design rather than a central analytical concern.

Bergsvik et al. (2024) and Bhandary et al. (2021) collectively illustrate a recurring methodological issue: climate finance data is often assumed to be accurate and comparable, despite significant variation in reporting standards, institutional capacity, and verification mechanisms across jurisdictions.

Harnett, Holland, and Crouch-Hess (2024) extend this discussion by identifying barriers to transition finance, including definitional ambiguity, reporting complexity, and informational asymmetries. While their qualitative synthesis captures important structural constraints, the analysis remains broad and does not differentiate between technical reporting challenges (such as data systems limitations) and strategic reporting behavior (such as underreporting or selective disclosure). This lack of analytical separation limits the study's explanatory precision.

Borst, Wencker, and Niekler (2022) provide a more technically rigorous contribution by applying machine learning and Bayesian correction methods to estimate overreporting in adaptation finance. Their finding of approximately 32% overreporting in CRS data raises serious concerns about the reliability of widely used global climate finance datasets. However, while the study quantifies distortion, it does not sufficiently explain the institutional or incentive structures that generate reporting inflation. This reflects a broader pattern in the literature where measurement correction advances more rapidly than governance explanation.

Donoghoe (2024) examines barriers to transparent climate investment in U.S. financial markets, categorizing them into informational, pricing, and governance constraints. Although analytically useful, the study is context-specific and reflects a highly developed financial system that differs significantly from emerging economies. As such, its findings have limited transferability to Kenya's energy sector, where institutional capacity constraints and fragmented reporting systems play a more dominant role than sophisticated market pricing mechanisms.

In the African context, Meattle et al. (2024) provide a macro-level assessment of climate finance flows, identifying significant increases in funding but persistent gaps in overall needs. However, the aggregation approach used in the study limits its ability to evaluate data quality, tracking integrity, or reporting accuracy. Similarly, Development Gateways (2024) propose digital tracking solutions and governance reforms but do not empirically validate their effectiveness, reflecting a normative rather than evidence-based approach to transparency reform.

Overall, the literature reveals a structural tension between increasing availability of climate finance data and persistent doubts about its reliability. This suggests that transparency challenges are not merely technical but institutional, reflecting inconsistencies in definitions, incentives, and reporting architectures. The current study builds on this by examining how these challenges manifest specifically within Kenya's energy-sector tracking and reporting systems.

2.3.3 Extent to Which Climate Finance Flows Align with Nationally Determined Contributions

The literature examining alignment between climate finance flows and Nationally Determined Contributions (NDCs) is largely macro-quantitative and policy-oriented, focusing on identifying financing gaps rather than explaining the institutional mechanisms that produce or constrain alignment.

Isah et al. (2025) conduct a comparative quantitative assessment of NDC financing requirements across countries and find persistent gaps between estimated needs and actual climate finance flows. While methodologically robust in aggregating financial estimates, the study assumes comparability across NDC costing methodologies, despite significant heterogeneity in how countries define, estimate, and report financial needs. This weakens the validity of cross-country comparisons and introduces potential measurement bias into aggregate financing gap estimates.

Alberti (2025) argues that updated NDCs present an opportunity to improve climate finance mobilization through enhanced transparency and more detailed financial planning. However, the study remains largely forward-looking and does not empirically evaluate whether increased specificity in NDCs translates into improved financing alignment or tracking accuracy. This limits its explanatory power regarding actual implementation constraints.

The Center for Access to Climate Finance (2024) also highlights Climate Finance Units (CFUs) as key institutional mechanisms for aligning finance with NDC priorities. Case evidence from Kenya and Rwanda suggests that CFUs can improve coordination and resource mobilization. However, the analysis remains largely descriptive and does not rigorously assess whether CFUs improve measurable alignment outcomes or simply enhance administrative visibility of climate finance flows. This distinction is critical, as improved reporting does not necessarily imply improved alignment.

Kenya's institutional frameworks, including UNDP (2020) climate budget coding guidelines, National Treasury circulars (2020), IMF (2024) assessments, and MRV+ systems (NDC Partnership, n.d.) represent significant progress in building formal climate finance governance systems. However, these frameworks primarily address *structural readiness* rather than *functional effectiveness*. For instance, while IFMIS integration improves classification of climate-related expenditures, it does not guarantee accuracy in disbursement tracking or verification of actual climate outcomes.

At the subnational level, IIED (2021) and reports on FLLoCA implementation (The Standard, 2023) reveal persistent governance, accountability, and capacity challenges. These findings highlight a critical disjuncture between national-level reporting systems and local-level implementation realities. In practice, this means that even when finance is formally aligned with NDC priorities at the national level, inefficiencies and governance weaknesses at the county level may distort actual delivery outcomes.

Collectively, the literature suggests that alignment between climate finance and NDCs is not solely a financial or technical problem but a multi-layered governance challenge. It involves the interaction of national reporting systems, sectoral tracking mechanisms, and subnational implementation capacities. The current study addresses this gap by focusing specifically on how climate finance tracking mechanisms in Kenya's energy sector mediate the relationship between financial flows and NDC alignment outcomes.

2.4 Summary and Research Gap

The reviewed studies reveal several research gaps in climate finance tracking, transparency, and alignment with NDCs. In terms of tracking mechanisms, studies such as Chelminski (2022) and Odhengo et al. (2019) provide valuable insights into climate finance flows and governance, but they do not explicitly evaluate the effectiveness of tracking mechanisms at the sectoral level. Similarly, Bird et al. (2013) presents a framework for assessing national climate finance systems but lacks a sector-specific focus. These gaps indicate a need for further research on how tracking mechanisms function in Kenya's energy sector, particularly in ensuring financial accountability and efficiency. Additionally, Bhandary et al. (2021) examines climate finance policies but does not focus on the practical monitoring and reporting of finance flows, highlighting another critical research gap.

Transparency and accuracy in climate finance reporting also emerge as key challenges, with studies such as Bergsvik et al. (2024) and Borst et al. (2022) identifying inconsistencies in reporting under the UNFCCC framework and overreporting in adaptation finance, respectively. However, these studies focus on global and adaptation finance, leaving a gap in understanding how such transparency issues affect specific sectors like Kenya's energy industry. Additionally, Harnett et al. (2024) identifies barriers to transition finance but does not provide detailed recommendations for improving reporting mechanisms at the sectoral level. Bhandary et al. (2021) acknowledges barriers in climate finance policies but does not explore sector-specific tracking and reporting challenges, creating a research gap that needs to be addressed.

Regarding the alignment of climate finance flows with NDCs, Isah et al. (2025) and Alberti (2025) highlight financial shortfalls and the potential for NDC updates to improve climate finance mobilization. However, these studies do not assess sector-specific contributions to bridging the climate finance gap. The Center for Access to Climate Finance (2024) discusses Climate Finance Units (CFUs) and their role in aligning financial flows with national climate priorities, but it does not evaluate their effectiveness in different policy environments. This presents an opportunity for further research into how CFUs operate within Kenya's energy sector and how they can be optimized to enhance NDC alignment.

Finally, while various studies discuss climate finance mobilization, governance, and policy challenges, there is limited research on the practical implementation of tracking and reporting mechanisms at the national and sectoral levels. For example, while Chelminski (2022) and Odhengo et al. (2019) address climate finance governance issues, they do not assess the efficiency of tracking mechanisms within Kenya's energy sector. Similarly, Harnett et al. (2024) identify systemic obstacles in transition finance but does not offer sector-specific strategies for overcoming these challenges. These gaps underscore the need for research that evaluates the effectiveness of tracking mechanisms, improves transparency, and provides practical recommendations for enhancing climate finance governance within Kenya's energy sector.

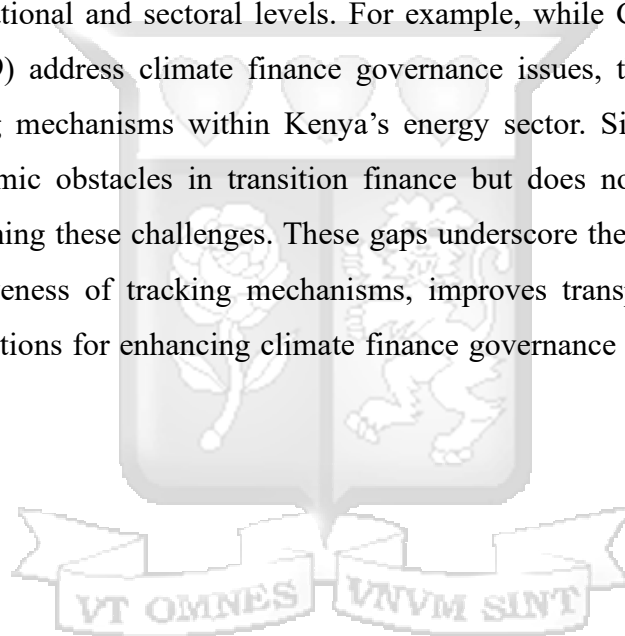


Table 2: 1 Summary of Research Gaps

Author	Title	Key Results	Knowledge Gaps	Focus of This Study
Chelminski (2022)	Climate finance impact on geothermal projects in Indonesia & Philippines	Identified three mechanisms (utility modifier, social learning, capacity building) that help overcome financial, regulatory, and technical barriers.	Focused on Indonesia and the Philippines – limited generalizability to Africa; does not explicitly analyze climate finance tracking mechanisms.	Evaluate effectiveness of climate finance tracking mechanisms in Kenya's energy sector, offering a region-specific perspective.
Bhandary, Gallagher & Zhang (2021)	Effectiveness of nine climate finance policies	Found that some policies mobilized funds successfully, but challenges persisted due to poor tracking mechanisms and reporting standards.	Does not deeply investigate tracking mechanisms or sector-specific monitoring frameworks.	Examine how well tracking mechanisms function in Kenya's energy sector and their role in mobilizing finance.
Bird et al. (2013)	Framework for assessing national climate finance systems	Developed a structured framework to assess institutional arrangements, financial management, and policy frameworks.	Does not focus on sector-specific tracking mechanisms.	Apply a qualitative approach to assess tracking effectiveness at the sectoral level in Kenya's energy sector.
Odhengo et al. (2019)	Review of climate finance tracking methods in Africa	Identified weaknesses such as lack of standard definitions and limited institutional capacity; highlighted Kenya's case.	Does not assess sector-specific tracking mechanisms or evaluate tracking effectiveness in detail.	Evaluate Kenya's energy-sector-specific climate finance tracking effectiveness and propose improvements.
Bergsvik et al. (2024)	Transparency mechanisms under UNFCCC	Found that reporting under UNFCCC does not enhance clarity due to lack of standardized definitions and guidelines.	Does not examine national/sectoral tracking systems or propose solutions for inconsistencies.	Explore how lack of standard definitions affects Kenya's energy-sector-specific tracking and reporting.
Harnett, Holland & Crouch-Hess (2024)	Barriers to transition finance	Identified five barriers (definitions, reporting requirements, data asymmetry, technical expertise gaps).	Focuses on transition finance broadly, without sector-specific recommendations.	Assess reporting and data challenges specific to Kenya's energy sector and propose solutions.
Borst, Wencker & Niekler (2022)	Overreporting in climate adaptation finance	Found a 32% overreporting rate in CRS data, suggesting need for improved reporting standards.	Does not provide sector-specific solutions or link overreporting to energy sector finance.	Assess accuracy and verification of climate finance data in Kenya's energy sector.

Donoghoe (2024)	Barriers in U.S. financial markets affecting climate equity	Identified governance, pricing, and data challenges hindering transparent reporting.	U.S.-focused, limiting applicability to developing countries like Kenya.	Analyze local governance issues affecting climate finance transparency in Kenya's energy sector.
Meattle et al. (2024)	Overview of climate finance flows in Africa (2019–2022)	Reported a 48% increase in climate finance flows but noted significant shortfalls and debt risks.	Macro-level assessment, no focus on sector-specific tracking or transparency.	Conduct sector-specific assessment of climate finance tracking to enhance transparency and efficiency.
Development Gateways (2024)	Climate Finance Tracking in Africa	Highlighted political will, stakeholder engagement, and digital solutions as key for effective CFT systems.	Lacks empirical validation of proposed improvements.	Evaluate functionality of digital CFT systems in Kenya's energy sector.
Cherry-Virdee, Warunge & Dejgaard (2024)	Adaptation finance commitments in East Africa	Identified disparities in allocation and capacity challenges.	Focuses on allocation trends, not tracking/reporting mechanisms.	Provide sector-specific analysis of tracking challenges in Kenya's energy sector.
Isah et al. (2025)	Climate finance needs in NDCs	Found significant shortfall between finance flows and NDC requirements.	Does not explore sector-specific alignment with NDCs.	Evaluate extent to which Kenya's energy-sector finance aligns with its NDCs.
Alberti (2025)	Leveraging NDC updates for climate finance mobilization	Recommended detailed and transparent financial requirement reporting in NDCs.	Lacks assessment of implementation challenges.	Analyze implementation challenges of NDC-aligned climate finance in Kenya's energy sector.
Center for Access to Climate Finance (2024)	Policy brief on Climate Finance Units (CFUs)	Showed CFUs are vital for mobilizing and aligning finance flows with NDCs.	Does not evaluate CFU effectiveness across different policy environments.	Assess CFU effectiveness in Kenya's energy sector and propose optimization strategies.

Source: Author 2026

2.5 Conceptual Framework

The conceptual framework shows the various phenomena of the study and their relationship. It is presented as a flow diagram.

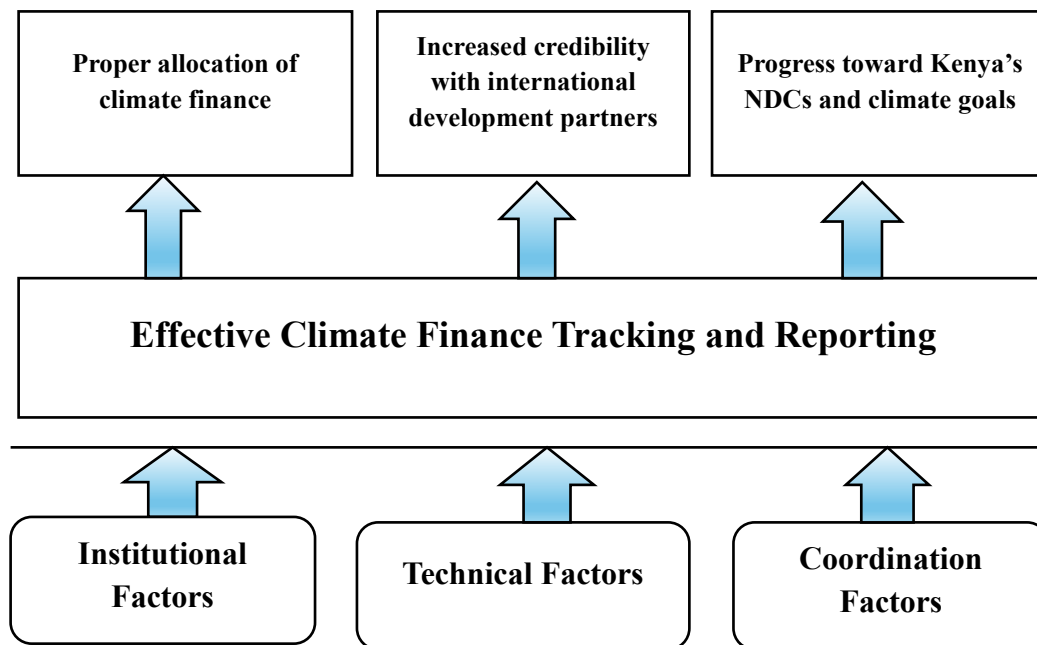


Figure 2.1: Conceptual Framework

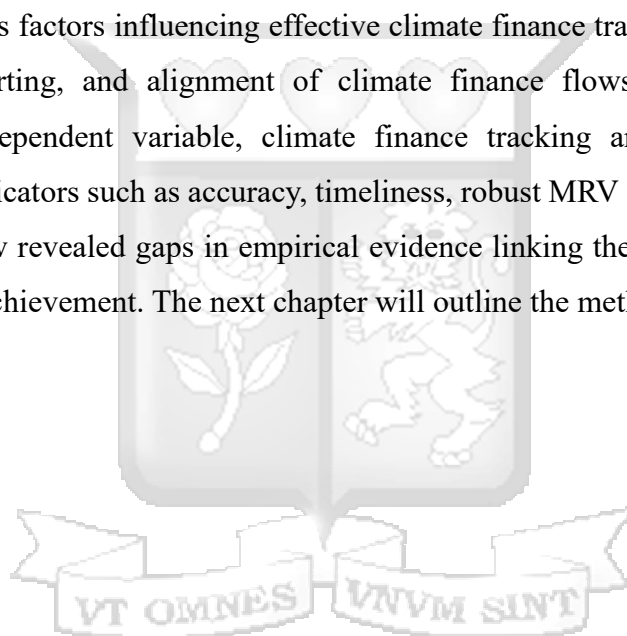
Source: (Researcher, 2026)

Figure 2.1 above conceptualizes effective climate finance tracking and reporting in Kenya as the central analytical problem shaping the research study. The core problem, positioned at the center of the diagram, reflects systemic weaknesses in how climate-related financial flows are identified, recorded, consolidated, and reported across national and sub-national institutions. The lower section of the diagram represents the variables to be examined in the study. These are grouped into three interrelated domains: institutional factors (such as limited enforcement of Circular No. 13-2020, and inadequate institutional capacity); technical factors (including fragmented data collection systems, lack of standardized reporting templates, weak alignment with NDC targets, and limited incentives for timely and accurate reporting and limited ICT tools for real-time tracking); and coordination factors (notably conflicting actor priorities, weak inter-agency coordination, limited private sector and civil society participation, and weak transparency and accountability mechanisms). Arrows from these factors to the core problem indicate their causal influence on the effectiveness of climate finance tracking and reporting. The upper section of the diagram illustrates the effects that arise from the core problem. These include the misallocation of climate finance and associated inefficiencies, reduced credibility

with international development partners, compromised progress toward Kenya's Nationally Determined Contributions (NDCs) and broader climate goals, and limited availability of reliable evidence to inform policy formulation and sectoral planning, particularly in energy and climate-sensitive sectors. Collectively, the diagram reflects the study's analytical framework by visually linking underlying institutional, technical and coordination constraints to observed shortcomings in climate finance accountability and performance outcomes in Kenya.

2.6 Chapter Summary

This chapter reviewed literature on climate finance tracking and reporting in Kenya's energy sector, guided by Public Goods Theory and Public Choice Theory, which emphasize transparency, accountability, and stakeholder participation. Three key independent variables have been identified as factors influencing effective climate finance tracking, effectiveness of climate finance reporting, and alignment of climate finance flows with Kenya's NDC commitments. The dependent variable, climate finance tracking and reporting, will be examined through indicators such as accuracy, timeliness, robust MRV systems, and adequacy of finance. The review revealed gaps in empirical evidence linking these factors to reporting outcomes and NDC achievement. The next chapter will outline the methodology to be used in the study



CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology that was used in achieving the objectives of the study. It outlines the methodological position of the researcher, research methods, data collection, and analysis methods that the researcher used in achieving the objective of the study, which was to evaluate climate finance tracking and implementation for Kenya's nationally determined contributions.

3.2 Research Philosophy

Research philosophy is an important aspect in research that describes the researcher's principles, assumptions, and beliefs underlying the approach of the study (Maarouf, 2019). Such beliefs and assumptions act as a lens through which the researcher interprets data based on their comprehension of what constitutes truth and how it can be accessed (Maarouf, 2019). Therefore, this study adopted a constructivist research philosophy that emphasizes understanding subjective experiences and socially constructed realities through approaches such as observation and interviews (Kaushik & Walsh, 2019). This approach suited the current research as it allowed the researcher to investigate subjective facets of climate finance tracking and reporting. Using the constructivist approach aligned with the study design that took the direction of a qualitative approach to establish a nuanced comprehension of the research study.

3.3 Research Design

This study adopted a qualitative exploratory research design. Exploratory research designs are appropriate when investigating complex phenomena that are not fully understood and where the objective is to gain in-depth insights into experiences, perceptions, processes, and contextual factors influencing a phenomenon (Saunders et al., 2019). The design was considered appropriate because climate finance tracking and reporting in Kenya's energy sector involves multiple actors, institutional processes, and governance mechanisms that require detailed exploration.

The qualitative exploratory approach enabled the researcher to obtain rich descriptions from participants directly involved in climate finance mobilization, tracking, reporting, and implementation of climate-related interventions. Through the use of key informant interviews and document review, the study explored how climate finance tracking mechanisms operate, factors affecting transparency and reporting, and the extent to which climate finance flows

align with Kenya's Nationally Determined Contributions (NDCs). The design also enabled the researcher to capture diverse stakeholder perspectives and understand institutional realities that could not be adequately examined using quantitative methods.

3.4 Target Population

The target population comprised institutions and stakeholders directly involved in climate finance mobilization, tracking, reporting, management, and implementation within Kenya's energy sector. These included government ministries, regulatory agencies, development partners, climate finance institutions, and climate-focused non-governmental organizations involved in climate finance governance and NDC implementation.

The population specifically consisted of senior officials and technical officers from the Ministry of Energy and Petroleum, Ministry of Environment, Climate Change and Forestry, National Treasury, Green Climate Fund structures, and climate-focused non-governmental organizations. These stakeholders were considered information-rich participants because of their direct involvement in climate finance planning, budgeting, reporting, monitoring, implementation, and oversight.

3.4.1 Sampling Procedures

Purposive sampling was used to select participants for the study. According to Silverman (2013), purposive sampling involves deliberately selecting participants who possess specialized knowledge, expertise, or experience relevant to the research objectives. The approach was appropriate because the study sought information from individuals directly involved in climate finance tracking and implementation rather than from the general population.

The study purposively selected fifteen (15) respondents drawn from institutions with direct responsibilities in climate finance governance, tracking, reporting, and implementation. The selection was based on participants' professional roles, technical expertise, and involvement in climate finance processes. The sample size of fifteen respondents was considered adequate for several reasons. First, qualitative studies emphasize depth of understanding rather than statistical representation (Creswell & Poth, 2018). Second, Guest, Bunce, and Johnson (2006) established that thematic saturation in homogeneous populations is often achieved within twelve interviews, with most major themes emerging during the first twelve interviews. Since the study targeted highly specialized experts occupying senior technical and policy positions, fifteen respondents were considered sufficient to generate rich and comprehensive insights

while allowing triangulation across institutions. Furthermore, the selected respondents represented the principal institutions responsible for climate finance management and NDC implementation in Kenya, thereby ensuring adequate coverage of key stakeholder perspectives.

Table 3. 1: Sample Respondents

Stakeholder	Respondents
Ministry of Energy and Petroleum	6 Respondents: Senior Officials in charge of: - Renewable Energy Directorate - Kenya Electricity Generating Company (KENGEN) - Rural Electrification and Renewable Energy Corporation (REREC) - Energy Research and Knowledge management - Geothermal Development Company (GDC) - Energy & Petroleum Regulatory Authority
Ministry of Environment, Climate Change and Forestry	3 Respondents: Senior Officials in charge of: - Climate Change Directorate - Climate Change Adaptation, Negotiation and resource mobilization directorate - National Environment Management Authority
National Treasury	2 Respondents: - Senior Policy Advisor on Climate Finance - Director Budget Fiscal and Economic Affairs
Green Climate Fund	2 Country Coordinators
Climate focused NGO's	2 Respondents: - Kenya Climate Innovation Center (KCIC) - Kenya Climate Change Working Group (KCCWG)
Total	15

Source: (Researcher, 2026)

Out of the target population the study sampled 6 participants from the Ministry of Energy and petroleum. With the ministry having 3 departments; Geo-exploration, Renewable energy projects and electrical power development, participants with relevant knowledge on the projects in place and their effects on the NDCs were sourced from each department, with 3 other participants sourced from state corporations that are implementing climate relevant projects within the energy sector. 3 participants were sourced from the Ministry of Environment, Climate Change, and Forestry. This ministry is responsible for coordinating Kenya's climate action policies and ensuring compliance with international climate commitments. They also work with development partners to mobilize resources for climate adaptation and mitigation, particularly in the energy sector. The relevant participants sampled included the Director climate change directorate, a representative from National Environment Management Authority (NEMA) who are the GCF & Adaptation Fund accredited and National Implementing entity, and a senior officer at the National Climate Change Secretariat.

With the national treasury and economic planning ministry responsible for mobilizing and managing finance from domestic and international sources, relevant officials who were sampled included the head of the climate finance unit and senior economists at the macroeconomic planning & international finance unit. Other relevant stakeholders sampled included representatives from the Green Climate Fund National Designated Authority and energy-focused NGO representatives.

3.5 Data Collection Methods

The study relied on both primary and secondary data sources. Primary data was collected through semi-structured key informant interviews conducted with fifteen respondents drawn from the Ministry of Energy and Petroleum, Ministry of Environment, Climate Change and Forestry, National Treasury, Green Climate Fund structures, and climate-focused non-governmental organizations. The interviews were conducted either physically or virtually, depending on respondent availability and logistical considerations. An interview guide containing open-ended questions aligned with the study objectives was used to facilitate discussions. The interviews explored climate finance tracking mechanisms, reporting practices, transparency challenges, and the alignment of climate finance flows with Kenya's Nationally Determined Contributions. During the interviews, notes were taken and responses recorded with participants' consent to ensure accurate capture of information.

Secondary data was collected through document review. Documents reviewed included the Climate Change Act, National Climate Change Action Plans (NCCAPs), National Treasury

climate finance reports, budget implementation reports, Integrated Financial Management Information System (IFMIS) reports, audited financial statements, Public Expenditure and Financial Accountability (PEFA) reports, Nationally Determined Contribution documents, Green Climate Fund reports, development partner reports, government circulars, policy papers, and reports from climate-focused organizations. The reviewed documents provided contextual information and evidence used to corroborate findings obtained from key informant interviews. The combination of interviews and document review enabled methodological triangulation, thereby enhancing the credibility and comprehensiveness of the study findings.

3.6 Data Analysis Procedures

Data analysis was conducted using qualitative content analysis and thematic analysis techniques. The interview recordings and field notes were first transcribed and organized for analysis. The researcher then familiarized himself with the data through repeated reading of interview transcripts and reviewed documents. Open coding based on the procedures proposed by Corbin and Strauss (2015) was subsequently undertaken to identify concepts, recurring ideas, and meaningful statements emerging from the data.

Codes with similar meanings were grouped into categories, which were then synthesized into broader themes aligned with the study objectives. The thematic analysis focused on identifying patterns relating to climate finance tracking mechanisms, factors affecting transparent reporting, and the alignment of climate finance flows with NDC implementation.

Secondary data obtained through document review was analyzed using qualitative document analysis. Relevant information from policy documents, financial reports, climate finance reports, and institutional publications was extracted, categorized, and compared with interview findings. The analysis focused on identifying evidence relating to climate finance tracking frameworks, reporting systems, institutional arrangements, financing trends, and implementation challenges. Findings from document analysis were used to triangulate and validate information obtained from key informant interviews.

The final stage involved integrating findings from both primary and secondary data sources to generate comprehensive themes and interpretations that addressed the study objectives.

3.7 Research Data Quality

To ensure the validity of the study, multiple strategies will be employed. Construct validity will be achieved through triangulation, by combining data from key informant interviews, open-ended questionnaires, and secondary documents such as policy reports, budget statements, financial statements, and PEFA assessment findings (Yin, 2013). This approach allows the researcher to cross-check information from different sources, reducing the risk of bias and enhancing the credibility of the findings. Internal validity will be strengthened by comparing responses across multiple stakeholders to identify consistencies and divergences in perspectives, ensuring that conclusions accurately reflect the phenomena under study.

Reliability will be addressed through systematic procedures that enhance the consistency and dependability of the research. Internal reliability will be achieved by using consistent interview guides and coding frameworks during data collection and analysis, ensuring that similar questions and coding approaches are applied across all respondents (Saunders, Lewis, & Thornhill, 2019). While external reliability is inherently limited in qualitative research due to contextual specificity, detailed documentation of the research design, sampling procedures, data collection instruments, and analytical methods will allow other researchers to replicate the study in comparable contexts, supporting the trustworthiness and transparency of the research process.

3.8 Reliability and Validity

The study ensured the trustworthiness and rigor of the findings by addressing key qualitative research criteria, including credibility, dependability, and confirmability.

Internal Validity was enhanced through the use of triangulation, whereby data was collected from multiple sources, including key informant interviews and secondary documents such as policy reports, budget statements, and climate finance publications. This enabled cross-verification of information and strengthened the accuracy of the findings. Additionally, the use of verbatim quotations from respondents ensured that the findings reflected participants' actual views and experiences.

Reliability, on the other hand, was achieved by maintaining consistency in the data collection and analysis process. A semi-structured interview guide was used across all respondents to ensure uniformity in the type of information collected. Furthermore, a systematic coding process was applied during content analysis, allowing for consistent identification and categorization of emerging themes.

The Objectivity of the findings was ensured by grounding the findings in empirical data obtained from respondents and documented sources, rather than researcher bias or assumptions. The study also maintained detailed records of data collection and analysis procedures, enabling transparency in the research process. While qualitative research is context-specific and does not aim for statistical generalization, the study ensured generalizability by providing detailed descriptions of the research context, participants, and institutional settings. This allows other researchers to assess the applicability of the findings to similar contexts.

3.9 Ethical Considerations

Research ethics guided all stages of the study, including data collection, analysis, storage, and reporting of findings. Before data collection, ethical approval was obtained from Strathmore's ethics review board, and authorization to conduct research was sought from the National Commission for Science, Technology, and Innovation (NACOSTI). Informed consent was obtained from all participants before interviews were conducted. Participants were informed about the purpose of the study, the voluntary nature of participation, their right to decline answering any question, and their right to withdraw from the study at any stage without penalty. Consent was obtained before recording interviews or taking notes.

Confidentiality and anonymity were maintained throughout the research process. Participants were not identified by name in interview transcripts, analysis, or reporting. Instead, codes and institutional identifiers were used to protect participants' identities. Interview recordings, transcripts, and reviewed documents were securely stored and accessed only by the researcher. To minimize bias during data collection and analysis, the researcher used a standardized interview guide and maintained neutrality when conducting interviews. During analysis, findings from interviews were triangulated with documentary evidence to improve credibility and reduce subjective interpretation.

The researcher also ensured that information obtained from participants was used solely for academic purposes. Findings were reported honestly and accurately without fabrication, falsification, or misrepresentation of evidence. Throughout the study, respect for participants, privacy, confidentiality, and professional integrity was maintained to ensure compliance with accepted ethical research standards.

CHAPTER FOUR: PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

The primary objective of this study was to evaluate climate finance tracking and reporting in Kenya, with a specific focus on its effectiveness in supporting the implementation of Kenya's Nationally Determined Contributions within the energy sector. The study sought to examine the institutional, technical, and coordination factors influencing tracking systems, assess their effectiveness, and analyze how alignment with NDC commitments shapes reporting practices.

Primary data was collected through key informant interviews (KIIs) involving stakeholders from relevant institutions, including the National Treasury of Kenya, the Energy and Petroleum Regulatory Authority, government ministries, and climate-focused organizations. Secondary data was obtained from policy documents, government reports, and publications related to climate finance and energy sector investments. Data analysis was conducted using content analysis and thematic analysis. The data were coded and categorized into emerging themes based on the study objectives. The findings are presented in this chapter in line with the research objectives, supported by direct quotations from respondents and relevant policy and documentary evidence.

4.2 Demographic Information of the Respondents and Response Rate

From the data collection exercise, a total of 15 respondents were targeted, out of which 12 respondents were successfully interviewed, resulting in a response rate of approximately 80%. This response rate was considered adequate for a qualitative exploratory study, as it allowed for in-depth engagement with key stakeholders possessing relevant expertise in climate finance tracking and reporting. The respondents were drawn from key institutions involved in climate finance, energy planning, and policy coordination. These included government ministries, regulatory authorities, development partners, and climate-focused non-governmental organizations. The distribution of respondents is presented in Table 4.1

Table 4. 1: Response Rate

Code	Institution	Position
R1	Kenya Electricity Generating Company (KENGEN)	Manager Level
R2	Kenya Electricity Generating Company (KENGEN)	Manager Level
R3	Energy and Petroleum Regulatory Authority	Manager Level
R4	Ministry of Energy and Petroleum	Senior Official
R5	Ministry of Energy and Petroleum	Senior Accountant
R6	Ministry of Environment	Director
R7	Ministry of Environment	Project Manager
R8	National Environment Management Authority	Manager Level
R9	National Treasury	Assistant Director
R10	National Treasury	Senior Economic Policy Analyst
R11	GCF	Senior Economist
R12	Kenya Climate Innovation Centre	Manager Level

Source: (Researcher, 2026)

The study interviewed 12 key informants drawn from institutions directly involved in climate finance mobilization, tracking, reporting, and NDC implementation. Most respondents occupied senior management or technical positions and possessed extensive experience in climate finance governance, with professional experience ranging from 5 to 20 years. This provided a rich source of expert knowledge regarding climate finance tracking systems in Kenya.

4.3 Research Findings

4.3.1 Institutional, technical, and coordination factors influencing climate finance tracking and reporting in Kenya

The first objective of the study was to examine the institutional, technical, and coordination factors influencing climate finance tracking and reporting in Kenya. This section presents detailed findings derived from thematic analysis of interviews conducted with key stakeholders drawn from the National Treasury, sector ministries, regulatory agencies, and implementing partners in the climate finance ecosystem. The findings show that climate finance tracking in Kenya is shaped by an interplay of centralized public financial management systems, sector-based classification practices, and multi-actor coordination arrangements that are still evolving in practice. Overall, three major dimensions emerged: these included; Institutional arrangements governing data generation and consolidation; Technical and methodological implementation of climate finance tracking tools, and; coordination structures across government and non-state actors.

Institutional Arrangements: Centralized Financial Systems and Distributed Climate Finance Reporting Responsibilities

Findings indicate that Kenya's climate finance tracking architecture is embedded within a centralized public financial management system anchored in the National Treasury and IFMIS, which serves as the primary platform for recording and aggregating government expenditures. However, climate finance identification and reporting are not solely centralized; instead, they are distributed across multiple institutions depending on sectoral mandates and program implementation structures.

Respondents consistently described the National Treasury as the central coordinating institution responsible for consolidation of climate finance data at the national level. Sector ministries, state agencies, and implementing organizations are responsible for identifying, tagging, and reporting climate-related expenditures within their respective mandates before submission for consolidation.

A respondent from NEMA explained this institutional positioning clearly: *"It's not really a mandate of NEMA to track... we are just actors in the climate finance ecosystem... we just report."*

This indicates a functional division of responsibility, where Sector institutions generate and classify climate-relevant expenditure data, the central government consolidates and validates

aggregated reporting, and IFMIS provides the financial recording backbone for public expenditure data

However, findings also revealed that while IFMIS provides a unified system for financial recording, climate finance tracking is dependent on how institutions apply climate classification codes and tagging guidelines within the system. This creates a key institutional challenge: uniform financial recording does not automatically translate into uniform climate finance classification. Respondents noted that institutions differ in how consistently they identify climate-relevant expenditures, particularly in sectors where climate relevance is indirect or embedded within broader development programs. As a result, climate finance data is generated through multiple institutional entry points before consolidation, creating variation in completeness and timing of reporting.

Despite these operational challenges, respondents acknowledged that Kenya has made significant institutional progress through policy and regulatory frameworks, including: The Climate Change Act (2016), Climate Change Budget Coding (CCBC) framework (2015), Climate Public Expenditure and Budget Review (CPEBR) system (2016), Circular No. 13/2020 on Climate Finance Tracking and Reporting and the Standard Chart of Accounts (SCOA) integration for climate coding. These frameworks have strengthened the formal requirement for institutions to identify and report climate-related expenditures within government systems.

A respondent from the Climate Finance Unit observed: *“We have made progress in terms of the legal and policy environment... the policy environment is getting better, not yet fully concretized.”*

This reflects that while institutional frameworks are well established, full operational consistency across institutions is still evolving. Overall, the findings indicate a system characterized by strong central financial control but variable upstream climate finance identification practices across institutions, resulting in uneven reporting completeness.

Technical and Methodological Implementation of Climate Finance Tracking Systems

Findings show that Kenya has developed a relatively advanced set of technical instruments for climate finance tracking, including climate budget tagging systems, SCOA coding integration, CCBC guidelines, and standardized reporting circulars issued by the National Treasury. These tools provide a structured framework for identifying and classifying climate-related expenditures within public financial management systems.

However, respondents emphasized that the primary challenge lies not in the absence of technical frameworks, but in the inconsistent implementation and interpretation of existing classification tools across institutions. A key area of divergence relates to how institutions classify expenditures as: Principal climate finance (direct climate mitigation or adaptation investments) and Co-benefit climate finance (projects with indirect or partial climate relevance). Respondents indicated that classification decisions often depend on institutional interpretation, technical capacity, and sectoral understanding of climate finance boundaries. A respondent noted: *“How do you deal with the co-benefits of your action... even if it’s not directly a climate project?”*

This demonstrates that while guidelines exist, boundary-setting between climate and non-climate expenditures is not always applied consistently, particularly in complex multi-sector programs. From a systems perspective, IFMIS remains the central financial recording platform for government expenditures. However, climate finance reporting is not fully automated within IFMIS outputs. Instead, institutions rely on: manual extraction of financial data from IFMIS reports, supplementary sectoral reporting templates, project-level monitoring, and audit reports and donor reporting frameworks (for externally funded projects)

This indicates that climate finance tracking operates as an additional analytical layer built on top of general financial data systems, rather than as a fully integrated real-time module within IFMIS. A respondent from the National Treasury stated: *“The only way I get to report... is through financial reports... we have yet to have an infrastructure for us to report on this.”*

This highlights a critical technical gap: while data exists within IFMIS, there is limited automation for climate-specific aggregation and analysis, requiring significant manual reconciliation across reporting systems. Respondents also noted ongoing efforts to develop an integrated climate finance reporting platform designed to allow multiple institutions to input standardized climate finance data directly into a centralized system. However, this system is still in development and has not yet achieved full institutional adoption.

Overall, the findings indicate that Kenya has strong foundational technical systems, but integration, automation, and harmonization of climate finance analytics remain incomplete, leading to reliance on manual consolidation processes.

Coordination Across Government and Non-State Climate Finance Actors

Findings indicate that coordination within government institutions is relatively structured due to established public financial management systems, legal reporting requirements, and budget execution processes. However, coordination challenges become more evident when examining interactions between government systems and non-state actors.

Within government, ministries and agencies operate within clearly defined budgetary and reporting frameworks, which facilitates structured financial reporting. However, this coordination does not fully extend to private sector actors, civil society organizations, and development partners.

Respondents consistently indicated that there is no fully integrated mechanism that systematically captures and consolidates climate finance data from non-state actors into national reporting systems.

A respondent from NEMA explained: “Within government, it is fairly advanced... the problem now is we haven’t developed a mechanism to bring the private sector and civil society.”

This suggests that coordination gaps are not due to absence of institutional structures, but rather due to lack of interoperability between state-led financial systems and external reporting frameworks.

Findings show that private sector climate finance is primarily reported through Environmental, Social, and Governance (ESG) disclosures, sustainability reports, and corporate reporting mechanisms. However, these reporting systems are not directly aligned with national climate finance classification frameworks or integrated into IFMIS-based reporting structures.

A respondent from the National Treasury noted: “*There is no linkage between that and the State Department and the National Treasury... it’s a grey area.*”

Similarly, development partners and international organizations often use independent reporting templates aligned to their own accountability frameworks, which are not always synchronized with national reporting timelines or classification systems.

This results in parallel reporting systems operating independently, incomplete consolidation of total national climate finance flows, and difficulty in reconciling public, private, and donor climate finance data. Thus, coordination challenges are best understood as a lack of unified data integration architecture across multiple reporting ecosystems, rather than the absence of coordination institutions.

Emerging Monitoring, Evaluation, and Reporting Systems

Findings indicate that there are emerging improvements in monitoring, evaluation, and reporting systems across institutions involved in climate finance implementation. These systems are particularly evident in donor-funded projects, NGOs, and selected government implementing agencies.

Respondents reported the use of structured monitoring frameworks that include baseline assessments, annual progress tracking, and performance indicators linked to both financial and environmental outcomes. These indicators include job creation, emissions reduction, waste management, and project efficiency metrics.

One respondent explained: *“We track starting off with a baseline... and every year we track things like jobs created, waste handled.”*

In addition, some institutions have adopted integrated Enterprise Resource Planning (ERP) systems that combine financial tracking with Environmental, Social, and Governance (ESG) reporting modules, allowing for simultaneous financial and impact monitoring.

However, these systems largely operate at institutional or project level and are not fully integrated into national climate finance reporting platforms. A respondent noted: *“We give that information to the ministry... then it’s up to them to do the higher metrics.”* This indicates a structural gap between data generation at project/institution level and aggregation and analysis at national level

Respondents further noted that national-level reporting is often delayed due to the time required to compile, validate, and harmonize data from multiple sources. This affects the timeliness of climate finance reporting and limits real-time decision-making capacity.

Overall, the findings indicate that while monitoring and evaluation systems are relatively strong at micro and institutional levels, their integration into a unified national climate finance tracking framework remains incomplete.

4.3.2 Triangulation of Institutional, Technical, and Coordination Findings with Secondary Data

Findings on institutional, technical, and coordination factors influencing climate finance tracking and reporting in Kenya were triangulated with secondary policy documents, national climate finance frameworks, and public expenditure reports to validate the interview results and assess their consistency with existing governance structures.

Institutional Arrangements and Centralized Tracking

Interview findings showed that climate finance tracking is centralized within the National Treasury through IFMIS, while implementation and reporting are distributed across ministries and agencies.

This is supported by the Climate Change Act (2016), which designates the National Treasury and relevant coordinating institutions as key custodians of climate finance reporting within public financial management systems. In addition, the Climate Public Expenditure and Budget Review (CPEBR, 2016) confirms that climate finance is embedded within government budgeting structures and consolidated at the national level, but while the government has invested in mitigation type activities such as energy investment programs and geothermal development, the amount is not captured since the implementing agencies, mostly parastatals, of Ministry of Energy and Petroleum are not subject to IFMIS.

However, these frameworks also indicate that sector-level classification of climate expenditures remains dependent on institutional tagging practices, which supports interview findings that consistency in identification varies across institutions.

Technical Systems and Methodological Application

Interview data indicated that Kenya has established tools such as Climate Change Budget Coding, Standard Chart of Accounts integration, and Circular No. 13/2020, but implementation varies across institutions.

This is confirmed by the Climate Change Budget Coding (CCBC) guidelines (2015) and Treasury circular No.13/2020 on tracking and reporting of climate finance flows and climate change related expenditures, which provide standardized classification frameworks for climate finance and continuous analysis of Kenya's climate expenditure. However, implementation reports and training manuals highlight that correct application depends on institutional capacity and interpretation. Review of audited financial statements and quarterly reports revealed that the treasury circular is not strictly adhered to with project/activity level expenditure data for

climate and environment related projects and programs not reported as per the prescribed format in the circular. This supports the finding that the challenge is not absence of methodology, but variation in application of existing standardized systems across implementing institutions.

Coordination Across Actors

Interview findings showed strong coordination within government but weak integration of non-state actors. This is supported by the National Climate Finance Policy (2018), which identifies coordination with private sector actors and civil society as a major gap in Kenya's climate finance architecture. The policy further notes that non-state climate finance flows are not systematically integrated into national reporting systems.

This confirms interview findings that coordination challenges are primarily linked to limited integration mechanisms rather than the absence of coordination structures.

Reporting Systems and Data Integration

Respondents indicated that reporting systems are still evolving, with delays and incomplete integration across actors. This is supported by Kenya's Nationally Determined Contribution (NDC) implementation reports, which highlight challenges in consolidating climate finance data due to fragmented reporting timelines and multi-institutional data sources. Similarly, World Bank (2020) public expenditure assessments note that although IFMIS provides a centralized financial system, climate-specific reporting still relies on supplementary data aggregation from multiple institutions. This confirms that while financial data is centralized, climate finance reporting remains partially integrated and largely retrospective in practice.

The Climate Change Budget Code Report of 2015 proposed and introduction of an eight analytical segment to the Standard Chart of Accounts (SCOA) but tracking and reporting through IFMIS system is yet to be operational. Manual identification of climate relevant expenditures may lead to over or under reporting due to inadequate information.

Table 4.2: Summary of findings on Institutional, Technical and Coordination factors influencing Climate finance tracking and reporting

Dimension	Key Findings	Supporting Evidence	Interpretation
Institutional arrangements	Climate finance tracking is centralized within the National Treasury (IFMIS), while ministries and agencies are responsible for identification and reporting of climate expenditures	Climate Change Act (2016); CPEBR (2016); CCBC framework; interviews	Strong centralized financial control exists, but climate finance identification and reporting responsibilities are distributed across institutions
Technical systems	Existence of CCBC, SCOA coding, Circular 13/2020 and training manuals, but inconsistent application across institutions	CCBC (2015); SCOA; Circular 13/2020; interviews	Technical tools are available, but variation in implementation affects consistency and comparability of climate finance data
Coordination mechanisms	Coordination is strong within government but weak in integration of private sector, NGOs, and development partners	National Climate Finance Policy (2018); interviews	Coordination gaps exist mainly in linking non-state actors to national climate finance tracking systems
Data classification practices	Variation in interpretation of climate finance (especially co-benefits vs direct climate spending)	CCBC guidelines; interviews	Differences in classification practices affect consistency of climate finance identification across institutions
Monitoring and reporting systems	Emerging M&E systems exist at project level but are weakly integrated into national reporting systems	World Bank (2020); interviews	Strong micro-level tracking exists, but weak aggregation into a unified national system limits overall effectiveness

Source: Research Findings (2026)

4.3.3 Effectiveness of Climate Finance Tracking and Reporting Mechanisms within the Energy Sector

This section presents findings on the second objective of the study, which was to assess the effectiveness of climate finance tracking and reporting mechanisms within Kenya's energy sector. Effectiveness is assessed in terms of system integration, completeness of coverage, timeliness of reporting, and consistency of data across institutions.

Findings indicate that while Kenya has made significant progress in embedding climate finance within public financial management systems, the overall effectiveness of tracking mechanisms in the energy sector remains partial and uneven, particularly when considering multi-actor financial flows beyond government systems.

Partial Effectiveness of Existing Tracking Systems

The findings indicate that climate finance tracking systems within the energy sector are only partially effective, primarily due to fragmentation across institutions and lack of full system integration. While Kenya has initiated the development of centralized reporting mechanisms particularly through the National Treasury, these systems are still in transition and have not yet achieved full operational efficiency.

A key informant from the Climate Finance Unit highlighted the intention to centralize reporting: *“Our objective is to tie that in with the climate finance reporting tool... so that we can have one go-to software system where different stakeholders can input data.”* Climate Finance Unit Representative

This reflects a strategic shift toward system consolidation, but the current reality remains one of parallel and disconnected reporting structures. Ministries, agencies, NGOs, and development partners continue to operate independent systems, resulting in duplication, inconsistencies, and inefficiencies in data aggregation. Another critical limitation affecting functionality is the time lag in reporting cycles, where data is reported several years after implementation. This reduces the responsiveness of the system and limits its utility for real-time policy decisions and adaptive planning. As a result, climate finance tracking in the energy sector functions more as a retrospective reporting tool rather than a dynamic management system.

Furthermore, the existence of sophisticated internal tracking systems within institutions, particularly NGOs and donor-funded programs, does not necessarily translate into national-level effectiveness. These systems generate detailed data but are often not integrated into centralized platforms, creating a disconnect between data generation and data utilization.

Integration with Public Financial Management Systems

The study findings also suggested that one of the most functional aspects of climate finance tracking in Kenya lies within the public financial management (PFM) system, where climate finance has increasingly been embedded into existing government processes. Over time, Kenya has moved toward integrating climate-related expenditures into mainstream budgeting, procurement, and reporting frameworks, thereby improving accountability, traceability, and consistency in the management of public climate funds.

This integration is particularly evident in the handling of international climate finance, where funds that were previously managed through parallel systems are now absorbed into national financial structures. As one respondent explained:

“It now just becomes part of public finance to be managed according to the national laws.” NEMA Representative. This shift reflects a deliberate effort by the government to domesticate climate finance governance, ensuring that external funds comply with national regulations such as the Public Finance Management Act. Another respondent reinforced this position by noting that even externally sourced funds must follow national procedures:

“Even if we got money from GCF... it still has to go through the national budgeting process and accountability process.” NEMA Representative

Through this approach, climate finance is no longer treated as an external or exceptional category of funding, but rather as part of the broader fiscal system. This enhances transparency and reduces the risk of mismanagement, while also enabling alignment with national development priorities.

However, as the narrative unfolds, it becomes clear that this strength is also a structural limitation. The effectiveness of the PFM system is largely confined to public sector flows, leaving out a significant portion of climate finance that originates from private sector investments, NGOs, and development partners operating outside government systems. This creates a fragmented landscape where only a subset of climate finance is systematically tracked.

A respondent highlighted this gap by noting that: *“There is a big proportion of financing that also comes through the private sector... we are not able to track that because the obligation for them to report isn’t that very clear.”* CFU Representative

This lack of obligation results in incomplete reporting, meaning that national climate finance data may significantly underestimate the true scale of financial flows within the energy sector. Consequently, while the PFM system is effective within its domain, it does not provide a holistic picture of climate finance in Kenya, thereby limiting overall system effectiveness.

Variability in Reporting Quality and Institutional Capacity

As climate finance flows move across different actors, the findings reveal a clear divergence in reporting quality and institutional capacity, which significantly affects the overall effectiveness of tracking systems. Government institutions, operating within structured regulatory frameworks, tend to produce more consistent and reliable financial reports due to established procedures, technical expertise, and oversight mechanisms.

However, once climate finance extends beyond government structures, the reporting landscape becomes increasingly uneven. Non-state actors such as NGOs, private sector entities, and community-based organizations often operate with varying levels of capacity, leading to inconsistencies in data quality and reporting standards.

This disparity was captured by one respondent who observed: *“Some of them struggle... their financial management systems are weak... and that impacted the quality of the reports.”* NGO Representative

According to the respondent, the issue becomes more pronounced in multi-implementer projects, where different actors are required to report on shared outcomes using different systems and standards. In such cases, even where implementation is effective, the lack of harmonized reporting frameworks makes it difficult to consolidate and compare data across institutions. At the same time, the narrative is not entirely one of weakness. According to some respondents, some organizations, particularly well-funded NGOs and innovation hubs, have developed advanced internal monitoring and evaluation systems. For example, one respondent noted: *“We have an elaborate system... we track client by client and sum that up into total program results.”* Climate Finance Implementing Partner

This suggests that capacity exists within the system, but it is unevenly distributed and poorly coordinated. Rather than a uniform lack of capacity, the challenge lies in the absence of standardized reporting protocols that can align these diverse systems into a coherent national framework. Thus, the effectiveness of climate finance tracking is undermined not only by capacity gaps, but by the lack of institutional harmonization, which prevents existing capacities from being effectively utilized at the national level.

These findings are consistent with the United Nations Development Programme (2021), which identifies institutional capacity disparities and weak coordination mechanisms as major barriers to effective climate finance tracking in Kenya. Similarly, the World Bank (2020) notes that differences in technical capacity across institutions often result in data inconsistencies and reporting inefficiencies, particularly in multi-stakeholder environments.

Weak Alignment with NDC Reporting and Performance Measurement

A deeper examination of the findings reveals a critical disconnect between climate finance tracking and climate performance measurement, particularly in relation to Kenya's NDC commitments. While financial data is collected and reported, its direct linkage to climate outcomes such as emission reductions or adaptation gains still remains weak. This misalignment according to the respondents emerges from a fragmented reporting structure, where different institutions are responsible for different components of the process. Implementing agencies focus primarily on financial tracking, while higher-level institutions are tasked with translating these financial flows into climate metrics.

As one respondent explained: *"We give that information to the ministry... then it's up to them to do the higher metrics."* Climate Finance Unit Representative. This separation of roles creates a disconnect between financial inputs and climate outcomes, reducing the ability of the system to assess whether investments are actually contributing to NDC targets. In effect, climate finance tracking becomes an exercise in financial accountability rather than impact evaluation. Furthermore, alignment with NDC targets is often conducted retrospectively, rather than being embedded at the project design stage. This limits the strategic use of climate finance data in guiding investment decisions and prioritizing high-impact interventions. The consequence is a system that can account for how much money is spent, but struggles to clearly demonstrate what that money achieves in terms of climate outcomes. This significantly reduces the effectiveness of climate finance tracking as a tool for policy evaluation and decision-making. This finding aligns with the Climate Policy Initiative (2022), which highlights that weak integration between financial tracking and climate outcome measurement limits the effectiveness of climate finance systems. Similarly, the United Nations Development Programme (2021) emphasizes the need for results-based climate finance frameworks that directly link financial flows to NDC targets and measurable climate impacts.

4.3.4 Triangulation of Findings with Secondary Data

Findings from interviews were triangulated with secondary policy documents, national climate finance reports, and sectoral energy finance frameworks to validate the effectiveness of climate finance tracking and reporting mechanisms in Kenya.

Integration into Public Financial Management Systems

Interview findings indicated that climate finance is largely integrated within IFMIS and national budgeting systems. This was confirmed by the Climate Change Budget Coding (CCBC) framework (2015) and the Standard Chart of Accounts (SCOA), which formally embeds climate expenditure codes into government financial systems. The Climate Public Expenditure and Budget Review (CPEBR, 2016) further confirms that climate-related expenditures are now systematically tracked within national budgets, particularly in the energy and infrastructure sectors. However, these documents also highlight that classification is dependent on institutional tagging practices, which supports interview findings that consistency varies across ministries. Corporations such as KENGEN have financial management systems that are different from IFMIS, bringing forth inconsistencies in reporting.

Coverage Gaps in Private Sector Climate Finance

Interview data showed that private sector climate finance is not systematically captured within national reporting systems. This finding is consistent with the National Climate Finance Policy (2018), which acknowledges that non-state climate finance flows remain underreported due to weak reporting obligations. Similarly, Kenya's Nationally Determined Contribution (NDC) implementation framework notes that private sector contributions are largely estimated rather than systematically tracked. This confirms that national climate finance reporting does not yet provide full coverage of total climate finance flows in the energy sector.

System Fragmentation and Interoperability

Respondents reported parallel reporting systems across government, NGOs, and development partners. Secondary evidence from the World Bank (2020) Public Expenditure Review confirms that climate-related data systems in Kenya remain partially siloed, with limited interoperability between IFMIS, donor reporting platforms, and sectoral monitoring systems. This supports interview findings that while financial data is centralized, climate-specific reporting still operates across multiple disconnected systems.

Reporting Delays and Timeliness

Interview findings indicated significant reporting lags of up to several years. This is supported by UNFCCC Biennial Update Reports, which consistently show delays in aggregation and submission of climate finance data from developing countries due to data consolidation challenges and institutional validation processes. This confirms that climate finance reporting in Kenya is largely retrospective rather than real-time.

Table 4.3: Summary of findings on the Effectiveness of Climate Finance Tracking and Reporting Mechanisms within the Energy Sector

Dimension	Key Findings	Supporting Evidence	Interpretation
Financial system strength	IFMIS provides centralized recording of public climate-related expenditures	CCBC (2015); SCOA integration; CPEBR (2016); interviews	Strong public financial management system ensures reliable tracking of government climate expenditures
Coverage of climate finance flows	of Private sector, NGOs, and some donor flows are not fully captured in national systems	Climate Finance Policy (2018); OECD (2020); interviews	National tracking system underestimates total climate finance due to limited coverage beyond public sector
System integration	Climate finance reporting relies on multiple complementary reporting channels (IFMIS, sector reports, donor systems)	World Bank (2020); interviews	Climate finance data exists but is not fully interoperable across systems, limiting integration
Reporting quality	Variation in data quality across institutions due to differences in capacity and reporting practices	Interviews	Inconsistencies in institutional capacity affect comparability and reliability of reported data
Timeliness of reporting	Significant delays in consolidation and reporting of climate finance data (up to several years)	UNFCCC reporting guidelines; interviews	Reporting is largely retrospective, limiting real-time decision-making and monitoring

Source: Research Findings (2026)

4.3.5 Alignment of Climate Finance Flows with Kenya's NDC Commitments and Its Influence on Tracking and Reporting

This section presents an analysis based on objective three on how climate finance flows are aligned with Kenya's Nationally Determined Contributions (NDCs), and how this alignment shapes the effectiveness of tracking and reporting systems. These results are presented based on emerging themes from the data.

Strategic Alignment Within the Energy Sector

The findings from the data analysis indicated that alignment between climate finance and NDC priorities is strongest within the energy sector, where mitigation objectives are clearly defined and embedded within planning frameworks. Respondents from technical and policy backgrounds emphasized that energy sector investments are increasingly structured to contribute directly to NDC targets. Energy sector experts highlighted that, institutions such as KenGen have internalized climate priorities within their project design. One representative from KenGen in the energy sector stated that: *“KenGen is in a position to quantify even the contribution towards the NDC targets... development projects are tailored towards not only renewable, but also clean energy.” Energy Sector Expert*

He further explained that energy planning integrates both mitigation and adaptation considerations through structured national processes such as the Least Cost Power Development Plan and the emerging Integrated National Energy Plan. These frameworks ensure that climate finance is not only mobilized but also directed toward projects that reduce emissions, such as geothermal, hydro, and wind energy, while phasing out fossil fuel-based generation.

Similarly, insights from the Energy and Petroleum Regulatory Authority (EPRA) reinforced that energy planning has evolved from a narrow focus on electricity supply to a broader, climate-oriented framework. As noted by a representative from EPRA, *“Before I was doing Power System Planning, now I'm doing Energy Planning, so it's not just focused on power... now it's a wider diversity.” EPRA Representative*

This shift reflects a transition toward more integrated and climate-responsive planning approaches within the energy sector, indicating that alignment with NDCs is increasingly institutionalized within sectoral processes. However, while this alignment is strong at the planning and implementation stages, the findings showed that it is not systematically translated

into financial tracking systems. The linkage between financial inputs and NDC outcomes remains largely implicit rather than explicitly measured.

Limited Capture of NDC-Aligned Climate Finance at the National Level

Despite evidence of alignment at the sectoral level, the study established that national-level tracking systems capture only a small proportion of climate finance as formally aligned with NDC commitments. This gap was clearly articulated by respondents from the Climate Finance Unit and the National Treasury.

One respondent noted: *“We reported what was aligned with about US\$500 million up to 2022... that was the first two years of implementation.” National Treasury Representative*

According to the respondent, this figure is significantly lower than the estimated US\$63 billion required to implement Kenya’s NDC by 2030, pointing to a major discrepancy between expected and reported climate finance flows.

Further, a respondent from the National Treasury explained that reporting timelines also affect alignment visibility: *“We are yet to track the subsequent two years... our reports are behind three years so that you have enough time to collect that information.” National Treasury Representative*

This lag in reporting creates a temporal disconnect between financial flows and NDC tracking, making it difficult to assess real-time progress. It also suggests that alignment may exist in practice but is not captured due to systemic delays and data collection challenges. These insights indicate that the issue is not necessarily the absence of alignment, but rather the inability of existing systems to comprehensively capture and report it. This finding is however, consistent with Kenya’s Biennial Update Reports and National Treasury publications, which highlight underreporting and delays in climate finance data. The National Climate Finance Policy (2018) also acknowledges gaps in linking financial flows to national climate priorities.

Retrospective and Fragmented Linkages to NDC Outcomes

A dominant theme across respondents was that alignment between climate finance and NDCs is largely retrospective. Rather than being embedded within project design and financial tracking systems, NDC linkages are often established at the reporting stage. A representative from the Kenya Climate Innovation Centre (KCIC) provided a clear illustration of this process:

“At the tail end, as we are doing reporting, then we try to connect that to the country NDC... we give that information to the ministry.” Climate Finance Intermediary (KCIC). He further

clarified that while KCIC maintains detailed internal tracking systems, including metrics on jobs created, waste managed, and emissions avoided, the responsibility for linking these outcomes to national NDC targets lies with government institutions: *“We give that information to the ministry... then it’s up to them to do the higher metrics.” Climate Finance Intermediary*

This reflects a multi-layered reporting structure where different actors operate in silos. Implementing agencies generate granular operational data, while national-level institutions aggregate and interpret this data in relation to NDC commitments. A representative from NEMA reinforced this fragmentation, noting that reporting processes are guided by existing financial and policy frameworks but lack integrated climate-specific infrastructure: *“The only way I get to report myself is through the financial reports... we have yet to have an infrastructure for us to report on this.” NEMA Representative*

This indicates that alignment is not built into the core architecture of financial tracking systems but rather added as an analytical layer after data collection. Consequently, this weakens the consistency and reliability of NDC-linked reporting. This finding aligns with Climate Policy Initiative (2022), which notes that many developing countries rely on ex-post alignment of climate finance with national targets. Similarly, UNFCCC reports highlight the challenges of integrating financial tracking systems with NDC reporting frameworks.

Institutional and Sectoral Disparities in NDC Alignment

The study further established significant disparities in how different institutions and sectors align climate finance with NDC commitments. From the results, public sector institutions demonstrate relatively strong alignment due to regulatory requirements and centralized coordination mechanisms. A respondent from NEMA explained that government entities operate within a structured framework that facilitates alignment: *“Every public institution is sort of obligated to align with the NDC and the national plans... so it is fairly easy within government.” NEMA Representative*

This obligation ensures that publicly funded projects are, at least conceptually, aligned with national climate goals. However, this level of alignment does not extend to non-state actors.

Respondents highlighted that private sector and civil society organizations operate under different reporting frameworks, which are not directly linked to NDC indicators. For instance, private sector actors often rely on Environmental, Social, and Governance (ESG) reporting, which does not explicitly map to national climate targets.

As one respondent noted: *“They report as ESG... but the information on how these finances is feeding towards our NDC is not really clear.”* *Climate Finance Stakeholder*

This creates a major gap in national climate finance tracking, as significant volumes of finance, particularly from private investments and donor-funded NGO programs, remain outside the NDC reporting framework.

Insights from the Kenya Climate Innovation Centre representative further illustrated this disconnect. While KCIC maintains sophisticated internal systems for tracking impact, including ERP-integrated dashboards, these systems are not fully integrated with national reporting frameworks. This results in parallel systems that generate valuable data but are not systematically consolidated at the national level. This finding is supported by OECD (2020), which emphasizes the need for harmonized reporting frameworks across public and private actors. Kenya’s National Climate Finance Policy also highlights the challenge of integrating private sector climate finance into national systems.

Implications for the Quality and Effectiveness of Tracking and Reporting

The misalignment and fragmentation observed across institutions have significant implications for the quality and effectiveness of climate finance tracking and reporting in Kenya. First, the absence of integrated NDC-based tracking frameworks means that financial data is often reported without a clear linkage to climate outcomes. This limits the ability of policymakers to assess whether investments are contributing meaningfully to mitigation and adaptation goals.

Secondly, the reliance on retrospective alignment introduces inefficiencies and inconsistencies in reporting. Since NDC linkages are established after data collection, there is a higher risk of data gaps, duplication, and misclassification. Third, delays in reporting further reduce the relevance of climate finance data for decision-making. As highlighted by National Treasury respondents, reporting lags of up to three years hinder the ability to monitor progress in real time. Finally, the exclusion of private sector and civil society finance from national tracking systems leads to an underestimation of total climate finance flows, weakening the comprehensiveness of national reports.

Need for Integrated and Standardized NDC-Based Tracking Systems

Across all respondents, there was a strong and consistent recognition that the current disconnect between climate finance tracking systems and Kenya's NDC framework must be addressed through more deliberate integration. Participants emphasized that while institutions are making efforts to align projects with climate goals, the absence of standardized methodologies continues to undermine consistency and comparability in reporting. This concern was particularly highlighted by a representative from NEMA, who noted that: *"Tracking has to be based on a standardized methodology... we still have to deal with methodological issues."*

NEMA Representative

This reflects a broader systemic challenge where different institutions apply varying definitions, classifications, and thresholds for what constitutes climate finance. As a result, even when financial flows are aligned with NDC priorities in practice, the lack of methodological uniformity makes it difficult to aggregate, verify, and report this alignment at the national level. Respondents also pointed to the absence of a centralized and integrated data infrastructure, noting that existing reporting systems remain fragmented across institutions, thereby limiting real-time tracking and weakening the overall coherence of climate finance reporting.

To address these gaps, respondents proposed a shift toward a more integrated and system-driven approach to climate finance tracking. This includes embedding NDC indicators directly within project design and financial reporting frameworks, rather than treating alignment as a retrospective exercise. Additionally, there is a need to harmonize methodologies across sectors and institutions to ensure consistency in data collection and reporting. Strengthening coordination between national and sub-national actors was also identified as critical, particularly given the increasing role of counties and decentralized implementation structures in climate action.

Furthermore, respondents emphasized the importance of establishing legal and institutional mechanisms to capture private sector climate finance, which currently remains largely outside formal tracking systems. These recommendations are strongly supported by existing policy recommendations. Reports by the World Bank (2020) and UNDP (2021) underscore the importance of integrated data systems and institutional coordination in improving climate finance transparency and accountability. Similarly, Kenya's National Climate Finance Policy (2018) highlights the need for robust systems that explicitly link financial flows to climate

outcomes, reinforcing the argument that without such integration, climate finance tracking will remain incomplete, fragmented, and less useful for policy decision-making.

4.3.6 Triangulation of NDC Alignment Findings with Secondary Data

Findings on the alignment of climate finance flows with Kenya's Nationally Determined Contributions (NDCs) were triangulated with secondary policy documents, national climate finance reports, and international assessment frameworks to validate interview evidence and assess consistency between reported practices and formal climate governance structures.

Sectoral Alignment with NDC Priorities

Interview findings indicated strong alignment between climate finance and NDC priorities within the energy sector, particularly in renewable energy investments and mitigation projects. This is supported by Kenya's Updated NDC (2020), which identifies the energy sector as the primary mitigation domain, with key focus areas including geothermal, wind, solar, and grid expansion. The Least Cost Power Development Plan (LCPDP) also confirms that national energy investments are increasingly aligned with low-carbon development pathways.

These documents validate interview findings that energy sector planning is strongly aligned with national climate objectives at the project design level.

Partial Capture of NDC-Aligned Climate Finance

Respondents indicated that only a limited portion of climate finance is formally captured and reported as NDC-aligned. This is consistent with the Kenya National Climate Finance Policy (2018), which acknowledges gaps in tracking private sector and non-state climate finance flows. Similarly, Kenya's Biennial Update Reports to the UNFCCC show that reported climate finance is significantly lower than estimated implementation needs, particularly for NDC targets. This confirms that while climate-aligned investments exist, they are not fully captured within national reporting systems.

Ex-Post Alignment and Reporting Delays

Interview findings showed that NDC alignment is often established during reporting rather than embedded in financial systems. This is supported by UNFCCC Transparency Framework guidelines (2018–2022), which highlight that many developing countries rely on retrospective reporting due to weak integration between financial systems and climate outcome tracking.

The World Bank Climate Finance Public Expenditure Review (2020) also notes that reporting delays and data consolidation challenges limit real-time tracking of climate finance

contributions. This confirms that Kenya's NDC tracking is largely retrospective rather than real-time.

Private Sector Reporting Gaps

Findings indicated weak integration of private sector climate finance into national NDC tracking systems. This is consistent with the OECD (2020) Climate Finance Architecture Report, which highlights that in developing countries, private sector climate finance is often reported through ESG frameworks that are not aligned with national climate accounting systems. Kenya's National Climate Finance Policy (2018) similarly identifies the absence of mandatory reporting mechanisms for private sector climate investments as a key gap in national climate finance tracking.

Table 4. 4: Summary of alignment of climate finance flows with Kenya's NDC commitments shapes the implementation and quality of climate finance tracking and reporting.

Dimension	Key Findings	Supporting Evidence	Interpretation
Institutional arrangements	Climate finance tracking is centralized within the National Treasury (IFMIS), while ministries and agencies are responsible for identification and reporting of climate expenditures	Climate Change Act (2016); CPEBR (2016); CCBC framework; interviews	Strong centralized financial control exists, but climate finance identification and reporting responsibilities are distributed across institutions
Technical systems	Existence of CCBC, SCOA coding, Circular 13/2020 and training manuals, but inconsistent application across institutions	CCBC (2015); SCOA; Circular 13/2020; interviews	Technical tools are available, but variation in implementation affects consistency and comparability of climate finance data
Coordination mechanisms	Coordination is strong within the government but weak in the integration of the private sector, NGOs, and development partners	National Climate Finance Policy (2018); interviews	Coordination gaps exist mainly in linking non-state actors to national climate finance tracking systems

Dimension	Key Findings	Supporting Evidence	Interpretation
Data classification practices	Variation in interpretation of climate finance (especially co-benefits vs direct climate spending)	CCBC guidelines; interviews	Differences in classification practices affect the consistency of climate finance identification across institutions
Monitoring and reporting systems	Emerging M&E systems exist at the project level but are weakly integrated into national reporting systems	World Bank (2020); interviews	Strong micro-level tracking exists, but weak aggregation into a unified national system limits overall effectiveness

Source: Research Findings (2026)

4.4 Chapter Summary

This chapter presented the findings of the study based on the three objectives. Overall, the study established that Kenya has developed strong institutional and policy frameworks for climate finance tracking, including the Climate Change Act (2016), CCBC guidelines, SCOA integration, and IFMIS-based public financial management systems. However, implementation remains fragmented, with coordination challenges across institutions, inconsistent application of technical tools, and limited integration of non-state actors, which affects the completeness and reliability of climate finance data.

The study further found that climate finance tracking and reporting mechanisms are only partially effective, particularly within the energy sector. While public sector climate finance is relatively well captured within government systems, significant flows from private sector actors and other non-state entities remain outside formal tracking frameworks. In addition, alignment of climate finance with NDC priorities is strong at the planning level, especially in the energy sector, but is weakly reflected in financial tracking systems, as linkages are often established retrospectively and affected by reporting delays and system fragmentation.

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CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study, discusses the key findings in relation to the study objectives, draws conclusions based on the empirical results, and provides recommendations for policy and practice. The chapter also outlines suggestions for future research and highlights the limitations encountered during the study. The discussion is structured around the institutional, technical, and coordination factors influencing climate finance tracking and reporting in Kenya, the effectiveness of climate finance tracking mechanisms within the energy sector, and the alignment of climate finance flows with Kenya's Nationally Determined Contributions (NDCs).

5.2 Summary of the Findings

The main objective of the study was to explore climate finance tracking and reporting for the implementation of Kenya's Nationally Determined Contributions (NDCs), with a specific focus on the energy sector. The study specifically sought to determine the institutional, technical, and coordination factors influencing climate finance tracking and reporting; to assess the effectiveness of existing tracking and reporting mechanisms within the energy sector; and to evaluate the alignment of climate finance flows with Kenya's NDC commitments and how this influences tracking and reporting systems. The study was guided by relevant theoretical perspectives on public financial management, climate governance, and transparency frameworks, and adopted a qualitative research design. Data was collected through key informant interviews with stakeholders drawn from government institutions, regulatory agencies, and climate finance intermediaries, complemented by secondary data from policy documents and climate finance reports.

The findings revealed that Kenya has established a relatively robust policy and institutional framework to support climate finance tracking, anchored on key instruments such as the Climate Change Act (2016) and the National Climate Change Action Plan. However, the system remains fragmented, with tracking functions largely centralized within the National Treasury, while implementation and reporting are decentralized across multiple institutions. This fragmentation is further exacerbated by weak stakeholder coordination, particularly with private sector and civil society actors, and the absence of enforceable reporting obligations. In addition, significant technical and methodological constraints were identified, including the lack of standardized definitions and classification frameworks for climate finance, weak data

infrastructure, and limited institutional capacity. These challenges undermine the consistency, comparability, and completeness of climate finance data across sectors.

With regard to the effectiveness of climate finance tracking mechanisms within the energy sector, the study established that these systems are only partially effective. While integration with public financial management systems has enhanced transparency, accountability, and traceability for public sector climate finance, this effectiveness is largely confined to government-controlled financial flows. A substantial proportion of climate finance, particularly from private sector investments and non-governmental organizations, remains outside formal tracking frameworks, resulting in incomplete national reporting. Furthermore, the study identified significant variability in reporting quality across institutions due to differences in capacity and systems, as well as a lack of harmonized reporting frameworks. A critical finding was the weak linkage between financial tracking and climate performance measurement, where systems focus more on tracking financial inputs rather than assessing their contribution to climate outcomes such as emission reductions or adaptation impacts.

Finally, the study found that while there is relatively strong alignment between climate finance and NDC priorities within the energy sector, particularly at the planning and project implementation stages—this alignment is not systematically integrated into financial tracking systems. Instead, linkages between financial flows and NDC outcomes are often established retrospectively, limiting the strategic value of climate finance data for decision-making. In addition, national-level tracking systems capture only a small proportion of climate finance aligned with NDC commitments, due to reporting delays, fragmented systems, and the exclusion of private sector finance. Overall, the findings highlight the need for integrated, standardized, and inclusive climate finance tracking systems that explicitly link financial flows to climate outcomes, in order to enhance transparency, accountability, and policy effectiveness in achieving Kenya's NDC targets.

5.3 Discussion of Findings

5.3.1 Institutional, Technical, and Coordination Factors Influencing Climate Finance Tracking and Reporting

The identified institutional, technical, and coordination challenges, including fragmented reporting systems, weak institutional capacity, inconsistent application of reporting standards, and poor inter-agency coordination, support the Public Goods Theory's argument that government intervention is necessary to provide and regulate systems that facilitate the management of public goods such as climate action, which are inherently non-excludable and non-rivalrous (Samuelson, 1954; Goldin, 2024). At the same time, these findings reinforce the propositions of Public Choice Theory, which posits that bureaucratic actors pursue organizational interests and operate within incentive structures that may lead to fragmented responsibilities, duplication of efforts, information asymmetries, and weak accountability mechanisms, ultimately undermining effective climate finance management (Buchanan & Tullock, 1962; Mueller, 2003; Tullock, 1967).

These findings are consistent with the work of Odhengo et al. (2019), who identified lack of standardized definitions and limited institutional capacity as major barriers to effective climate finance tracking in Africa. Similarly, Bergsvik et al. (2024) found that the absence of clear reporting guidelines under global frameworks such as the UNFCCC contributes to inconsistencies and lack of transparency in climate finance reporting. The study findings also align with Bird et al. (2013), who emphasized that fragmented institutional arrangements and weak coordination significantly hinder effective climate finance delivery and tracking. However, while previous studies largely focus on national-level challenges, the current study provides deeper, context-specific insights by highlighting how these institutional and technical gaps manifest within Kenya's energy sector. In contrast to broader global studies, this research demonstrates that although policy frameworks exist, their implementation is still evolving, thereby limiting the effectiveness of tracking and reporting systems.

The analysis indicates that climate finance tracking and reporting in Kenya is constrained less by the absence of policies, institutions, or technical systems and more by weaknesses in implementation, coordination, and institutional alignment. Although Kenya has developed a relatively advanced governance architecture, including legislation, budget tagging frameworks, reporting guidelines, and digital public financial management systems, persistent inconsistencies in identifying, classifying, and reporting climate expenditures suggest that

institutional readiness has outpaced operational coherence. The key implication is that the effectiveness of climate finance governance is not determined by the existence of frameworks alone, but by the extent to which institutions apply them consistently and in a coordinated manner. This challenges the assumption that policy and system development automatically improves accountability and instead highlights that institutional fragmentation can significantly weaken even well-designed governance systems.

A central implication of the results of the study is that the decentralized structure of climate finance identification introduces systemic vulnerability into reporting processes. Since ministries, departments, and agencies independently classify climate-related expenditures before consolidation at the national level, the reliability of national climate finance data is highly dependent on varying institutional capacities, interpretations, and judgments. This creates a situation where national figures may appear precise while concealing substantial inconsistencies in how climate finance is defined and recorded. Consequently, climate finance data may reflect institutional interpretation and capacity differences rather than an objective measure of actual climate investments, making climate reporting a governance issue that directly affects planning, budgeting, and policy credibility.

The findings further demonstrate that technological systems such as IFMIS, while improving transparency and expenditure tracking, are insufficient to resolve underlying reporting challenges. This is because classification of climate finance continues to rely heavily on subjective judgment regarding what qualifies as climate-related expenditure. The implication is that climate finance reporting depends not only on digital infrastructure but also on shared standards, institutional learning, and technical capacity. Without parallel investment in human capability and standardization, technological systems risk improving data collection without enhancing data quality, thereby exposing a gap between digital modernization and meaningful institutional transformation.

Coordination challenges extend beyond government institutions to the wider climate finance ecosystem, where limited integration of private sector actors, development partners, and civil society results in fragmented visibility of climate finance flows. This means no single actor has a comprehensive view of climate investments, leading to partial national estimates, potential duplication of efforts, and weak strategic alignment. The implication is that climate finance governance cannot be effectively pursued through siloed institutional arrangements, as

fragmentation undermines the ability to adopt a whole-of-economy approach necessary for coherent climate action and accurate estimation of financing needs.

At a deeper level, the observations from this study raise concerns about the credibility and strategic utility of climate finance data itself. Variations in classification standards, technical capacity, and reporting practices mean that the issue is not only data quality but also the legitimacy of the resulting statistics used for decision-making. This has significant implications for national planning, public expenditure management, international reporting, and resource mobilization, as weaknesses in consistency and coordination compromise the reliability of evidence used to define priorities and allocate resources. In this sense, institutional fragmentation directly shapes how climate finance realities are constructed and interpreted.

5.3.2 Effectiveness of Climate Finance Tracking and Reporting Mechanisms in the Energy Sector

The study established that although Kenya has made significant progress in integrating climate finance into public financial management systems and developing monitoring and reporting mechanisms, these systems remain fragmented and only partially effective. The relatively stronger tracking of public sector climate finance reflects the role of government-established budgeting and accountability structures in addressing the under-provision of public goods. However, the absence of mandatory reporting frameworks for private sector and NGO climate finance flows demonstrates the limitations that arise when comprehensive regulatory mechanisms are lacking, resulting in incomplete tracking and reporting. These findings therefore reinforce the Public Goods Theory's assertion that effective management of climate-related resources requires robust state coordination, standardized reporting systems, and enforcement mechanisms to ensure transparency and accountability in the provision of public goods (Samuelson, 1954; Goldin, 2024).

These findings are in line with Bhandary, Gallagher, and Zhang (2021), who found that the effectiveness of climate finance policies is often constrained by inadequate tracking mechanisms and weak reporting systems. Similarly, Chelminski (2022) highlighted that climate finance effectiveness depends not only on financial flows but also on complementary mechanisms such as capacity building and institutional support, which were also identified as gaps in this study. The findings further corroborate Bird et al. (2013), who emphasized the importance of robust financial management systems in ensuring effective tracking and accountability. However, unlike these studies, which primarily focus on policy effectiveness

and financing mechanisms, the current study provides a sector-specific evaluation of tracking systems within Kenya's energy sector, revealing that fragmentation, lack of interoperability, and weak integration with national systems significantly reduce overall effectiveness. This study therefore extends existing literature by demonstrating that even where strong internal systems exist, their lack of integration into national frameworks limits their contribution to overall tracking efficiency.

The findings have several important implications for climate finance governance in Kenya. First, the partial effectiveness of existing tracking and reporting systems suggests that Kenya's climate finance data may provide only a partial picture of reality, creating a risk that policymakers formulate priorities and allocate resources based on incomplete information. This means that sectors or interventions perceived as underfunded may in fact be receiving support from unreported sources, while genuine financing gaps may remain hidden.

Second, although the integration of climate finance into public financial management systems has strengthened oversight of public expenditures, the continued fragmentation of reporting mechanisms indicates that improvements in systems have not translated into a coherent end-to-end accountability framework. Consequently, the government may be able to account for how funds are budgeted but still struggle to establish how climate resources flow across institutions, whether they complement one another, and whether they collectively contribute to intended outcomes.

Third, the weak visibility of private sector and NGO climate finance flows implies that a significant portion of climate investments operates outside formal reporting structures. This limits the government's ability to coordinate actors, avoid duplication of efforts, leverage complementarities, and accurately determine the total resources available for achieving climate objectives. More critically, the absence of comprehensive reporting frameworks may lead to an overestimation of progress toward climate commitments because reporting performance becomes equated with actual performance.

In effect, the findings suggest that transparency is not merely a technical exercise but a strategic governance function; unless Kenya develops integrated and mandatory reporting mechanisms across all actors, it risks making policy decisions based on fragmented evidence, weakening stakeholder confidence, constraining future climate finance mobilization, and undermining the country's ability to demonstrate whether available resources are sufficient, efficiently utilized, and capable of delivering its energy and climate goals.

5.3.3 Alignment of Climate Finance Flows with NDC Commitments

These findings are consistent with the propositions of Public Choice Theory, which argues that public resource allocation and management are influenced by institutional incentives, bureaucratic interests, and information asymmetries rather than solely by the pursuit of collective welfare (Buchanan & Tullock, 1962; Mueller, 2003). Although climate finance investments within Kenya's energy sector appear to align with NDC priorities through the integration of climate considerations into energy planning frameworks, the absence of systematic integration of this alignment within tracking and reporting systems points to a disconnect between policy intentions and institutional practice. The dependence on retrospective reporting, fragmented data systems, and the exclusion of private sector and non-state actors reflect the coordination challenges and accountability weaknesses highlighted by Public Choice Theory, where competing institutional priorities and weak incentives for integrated reporting constrain the ability to clearly demonstrate how financial inputs translate into national climate outcomes (Tullock, 1967).

These findings are consistent with Isah et al. (2025), who identified a significant gap between climate finance needs outlined in NDCs and actual financial flows, highlighting challenges in both mobilization and tracking. Similarly, Alberti (2025) emphasized the need for improved transparency and detailed financial reporting within NDC frameworks to enhance alignment. The findings also align with the Center for Access to Climate Finance (2024), which underscores the importance of strong institutional mechanisms such as Climate Finance Units in coordinating and aligning finance with national priorities. However, while these studies focus on financial gaps and institutional roles, the current study provides a more nuanced perspective by demonstrating that the challenge in Kenya is not only the volume of finance but also the inability of existing tracking systems to capture and report alignment effectively.

Additionally, the findings support insights from UNDP (2020) and IMF (2024), which highlight gaps in integrating financial tracking systems with climate performance frameworks, particularly in project appraisal and expenditure tracking. The study further extends this literature by showing that alignment challenges are exacerbated by fragmented reporting systems, retrospective linkage to NDC outcomes, and lack of standardized methodologies. This suggests that improving alignment requires not only increased financial flows but also the development of integrated, real-time tracking systems that explicitly link finance to measurable climate outcomes.

The finding that climate finance investments are largely aligned with NDC priorities suggests that Kenya has made important progress in mainstreaming climate objectives within the energy sector. However, alignment in planning does not necessarily guarantee alignment in outcomes. Without mechanisms that verify whether financed activities ultimately deliver the anticipated emissions reductions and adaptation benefits, there is a risk that policy commitments become symbolic rather than transformative. The implication is that demonstrating intent to support NDCs is insufficient; what matters is the ability to provide evidence that climate investments are translating into measurable contributions towards national climate targets.

The finding that connections between financial inputs and NDC outcomes are often established retrospectively rather than embedded within project design and tracking systems has important implications for results-based climate governance. It means that institutions may struggle to determine which investments generate the greatest climate impact, making it difficult to prioritize high-value interventions, justify continued resource allocation, and learn from implementation experiences. More critically, retrospective attribution increases the risk of overstating contributions to NDC achievement, as projects may be labelled as supporting climate goals after implementation without having been explicitly designed to deliver or monitor those outcomes from the outset.

The finding that national systems formally capture only a small proportion of NDC-aligned climate finance due to reporting delays, fragmented data, and the exclusion of private and non-state actors suggests that Kenya may be underestimating both its progress and its financing needs. This weak visibility constrains strategic planning because decision-makers cannot accurately assess whether available resources are sufficient, where critical funding gaps exist, or which actors are driving climate action. More importantly, incomplete reporting may undermine the credibility of Kenya's climate reporting to development partners and limit its ability to demonstrate accountability, mobilize additional finance, and attract investment. Collectively, these findings imply that achieving the NDCs requires moving beyond broad policy alignment towards integrated systems that explicitly connect climate finance, implementation processes, and measurable climate outcomes, thereby ensuring that reported progress reflects actual progress.

5.4 Limitations of the Study

One limitation of the study is that it focused specifically on the energy sector in Kenya, which may limit the generalizability of the findings to other sectors such as agriculture, transport, or

water resources. Different sectors may have varying institutional structures, financing mechanisms, and tracking systems that influence climate finance reporting.

The study also relied on qualitative data collected from key informant interviews, which may be subject to respondent bias, including subjective interpretations and potential over- or underestimation of institutional effectiveness. Although efforts were made to triangulate findings with secondary data, the reliance on self-reported information may affect the objectivity of the results. Additionally, the study adopted a cross-sectional design, capturing data at a single point in time. This limits the ability to assess changes and improvements in climate finance tracking systems over time.

Despite these limitations, the study achieved its objectives and generated evidence-based insights on the mobilization, allocation, and tracking of climate finance within the energy sector in Kenya.

5.5 Conclusions

5.5.1 Institutional, Technical, and Coordination Factors Influencing Climate Finance Tracking and Reporting

The study concludes that climate finance tracking and reporting in Kenya is significantly influenced by institutional fragmentation, methodological inconsistencies, and weak stakeholder coordination. Although the country has made notable progress in establishing legal and policy frameworks such as the Climate Change Act (2016) and National Climate Change Action Plans, these frameworks have not yet translated into fully integrated and operational tracking systems. Institutional roles remain decentralized, with the National Treasury acting as the central coordinating body, while implementing agencies and other stakeholders primarily play reporting roles. This structure limits the comprehensiveness and integration of climate finance data across sectors.

The study further concludes that technical and methodological constraints, particularly the lack of standardized definitions and classification frameworks, significantly undermine the accuracy and comparability of climate finance data. In addition, limited technical capacity and the absence of integrated digital systems constrain effective reporting and data consolidation. Weak coordination between public and non-state actors, coupled with limited legal enforcement mechanisms, further contributes to incomplete reporting and underestimation of climate finance flows. Overall, the study concludes that while Kenya has a strong policy

foundation, the effectiveness of climate finance tracking is constrained by operational and institutional gaps.

5.5.2 Effectiveness of Climate Finance Tracking and Reporting Mechanisms in the Energy Sector

On the second objective, the study concludes that climate finance tracking and reporting mechanisms within Kenya's energy sector are only partially effective. While significant progress has been made in integrating climate finance into public financial management systems, the overall tracking framework remains fragmented and lacks full system integration. Public sector climate finance flows are relatively well tracked due to established budgeting, procurement, and reporting systems, which enhance accountability and transparency.

However, the study establishes that the effectiveness of these systems is limited by their inability to capture private sector and non-state climate finance flows. The absence of mandatory reporting requirements for these actors results in significant data gaps, leading to incomplete national climate finance reporting. Furthermore, variations in institutional capacity and reporting standards across actors contribute to inconsistencies in data quality, particularly in multi-stakeholder projects.

The study also concludes that existing tracking systems are primarily focused on financial accountability rather than performance measurement. The weak linkage between financial data and climate outcomes, particularly NDC targets, limits the ability of the system to evaluate the impact of climate finance investments. Therefore, while existing mechanisms provide a foundation for tracking, their overall effectiveness is constrained by fragmentation, capacity disparities, and weak integration with climate performance frameworks.

5.5.3 Alignment of Climate Finance Flows with NDC Commitments

The study concludes that climate finance flows in Kenya's energy sector are generally aligned with NDC priorities at the planning and implementation levels, particularly through investments in renewable and clean energy projects. Institutions within the energy sector have increasingly integrated climate considerations into planning frameworks such as national energy plans, ensuring that projects contribute to emission reduction and climate resilience objectives.

However, the study finds that this alignment is not systematically reflected within climate finance tracking and reporting systems. The linkage between financial inputs and NDC outcomes remains largely implicit and is often established retrospectively during reporting

rather than being embedded within project design and financial tracking frameworks. This limits the ability to accurately measure the contribution of climate finance to national climate goals. The study further concludes that national tracking systems capture only a fraction of NDC-aligned climate finance flows due to reporting delays, fragmented data systems, and the exclusion of private sector and non-state actors. As a result, there is a significant gap between actual climate finance flows and reported figures. Overall, the study concludes that while alignment exists in practice, it is not effectively captured, measured, or reported within existing systems.

Overall, the findings reinforce the explanatory power of Public Choice Theory in understanding institutional behavior within climate finance governance systems. The study shows that inefficiencies in tracking and reporting are not solely technical in nature, but are significantly shaped by institutional incentives, accountability structures, and fragmented mandates across agencies. At the same time, Public Goods Theory provides a broader justification for why climate finance tracking must be strengthened, as it represents a shared governance function whose effectiveness directly influences the provision of climate stability as a global public good.

5.6 Recommendations

5.6.1 Recommendations for Practice

Government institutions and implementing agencies should prioritize strengthening the integration and interoperability of existing climate finance tracking systems, particularly the Integrated Financial Management Information System (IFMIS) and associated Public Financial Management (PFM) tools. The study found that Kenya already has functional systems for climate finance tracking, including IFMIS, climate budget tagging mechanisms, and reporting frameworks. However, their effectiveness is constrained by weak system integration across institutions, delayed consolidation of data, and inconsistent reporting from implementing entities and development partners. Strengthening real-time data sharing, enforcement of reporting timelines, and interoperability between institutional systems will therefore improve completeness, reduce duplication, and enhance the accuracy of climate finance reporting.

There is also a need to strengthen the consistent implementation of existing standardized climate finance coding and reporting frameworks, including the Climate Change Budget Coding (CCBC) framework, the Standard Chart of Accounts (SCOA) climate tags, Circular No. 13/2020 on climate finance reporting, and the 2019 training handbook on climate finance

tracking. The study established that although these frameworks are well developed, their application varies across institutions due to differences in interpretation, particularly in the classification of climate co-benefits and sectoral expenditure tagging. Strengthening compliance mechanisms, continuous capacity building, and technical oversight will therefore improve consistency and comparability of climate finance data without requiring the development of new methodologies.

In addition, institutions should institutionalize the integration of NDC indicators into budgeting, expenditure tracking, and monitoring systems. The study found that while climate finance activities in sectors such as energy are aligned with NDC priorities at the planning level, this alignment is often not embedded in financial tracking systems and is instead assessed retrospectively during reporting. Embedding NDC indicators within existing planning and PFM systems will improve the ability to directly link financial flows to climate outcomes such as mitigation and adaptation performance.

Finally, targeted capacity strengthening across implementing institutions should be enhanced to address disparities in technical expertise in climate finance reporting. The study established that even where systems and guidelines exist, differences in institutional capacity affect the quality, timeliness, and consistency of reporting. Continuous training on climate finance coding, data management, and reporting will therefore improve the effective use of existing frameworks.

5.6.2 Recommendations for Policy

Policymakers should strengthen the enforcement of existing legal and regulatory frameworks governing climate finance reporting, including provisions under the Climate Change Act (2016), Public Finance Management regulations, and related circulars such as Circular No. 13/2020. The study found that while reporting frameworks and guidelines exist, compliance, particularly among non-state actors and some implementing agencies remains inconsistent. Strengthening enforcement mechanisms and reporting obligations will improve the completeness of climate finance data across all sectors.

Policy should also prioritize the deepening of integration between climate finance tracking and existing public financial management systems, particularly IFMIS. However, this integration should be enhanced through improved interoperability rather than the creation of parallel systems. The study established that fragmentation arises not from absence of systems, but from

limited linkage between institutional databases, delayed reporting cycles, and incomplete inclusion of non-state actors in formal reporting structures.

In addition, government should support the development of a consolidated national climate finance information platform built on existing systems, designed to aggregate data from IFMIS, sectoral databases, and development partner reporting tools. This platform should not replace existing instruments but should serve as an integration layer that enables real-time consolidation of climate finance data and alignment with NDC reporting requirements. Finally, institutional coordination should be strengthened through clearer definition of roles, reporting timelines, and accountability mechanisms across ministries, agencies, and implementing partners. The study found that coordination challenges stem less from absence of institutional frameworks and more from weak enforcement, inconsistent data sharing practices, and limited synchronization of reporting responsibilities across actors.

5.7 Suggestions for Further Studies

Future studies should consider adopting longitudinal research designs to examine the evolution of climate finance tracking systems over time and assess the impact of ongoing reforms and policy interventions. This would provide deeper insights into trends, improvements, and long-term effectiveness. Comparative studies across different sectors, such as agriculture, transport, and water, are recommended to determine whether the challenges and effectiveness of climate finance tracking observed in the energy sector are consistent across other sectors. This would enhance the generalizability of findings.

Further research should also explore the role of additional variables such as institutional capacity, governance structures, digital infrastructure, and regulatory environments in influencing climate finance tracking and reporting. Mixed-methods studies combining qualitative and quantitative approaches would provide a more comprehensive understanding of the issue. Finally, future studies should evaluate the effectiveness of emerging digital tools and systems, such as climate finance information systems and integrated reporting platforms, in improving transparency, accountability, and alignment with NDC targets in developing country contexts.

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APPENDICES

Appendix I: Strathmore University Introduction Letter

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Tuesday, 03 February 2026

To Whom It May Concern,

RE: FACILITATION OF RESEARCH – OTIENO ROBERT GUMBA

This is to introduce Robert Gumba who is a **Master's in Public Policy and Management (MPPM)** student at Strathmore University Business School, admission number MPPM 89554. As part of our MPPM Program, Robert is expected to do applied research and undertake a project. This is in partial fulfilment of the requirements of the MPPM course. To this effect, he would like to request appropriate data from your organization.

Robert is undertaking a research paper on "Factors Influencing Climate Finance Tracking and Reporting for Kenya's Nationally Determined Contribution implementation: Focus on the Energy Sector." The information obtained from your organization shall be treated confidentially and shall be used for academic purposes only.

Our MPPM Program seeks to establish links with industry, and one of these ways is by directing our research to areas that would be of direct use to industry. We would be glad to share our findings with you after the research, and we trust that you will find them of great interest and of practical value to your organization.

We appreciate your support and shall be willing to provide any further information if required.

Yours Faithfully,

Njoki Kiagiri.
Manager – Graduate Programs.

Strathmore University Business School is a Proud member of:



Introduction

Thank you for agreeing to take part in this interview. The purpose of this study is to explore the effectiveness of climate finance tracking and reporting in Kenya's energy sector. Your views will provide valuable insights to improve climate finance governance and policy implementation. Your participation is voluntary, and your responses will be kept confidential and used strictly for academic purposes.

SECTION A: KEY INFORMANT PROFILE

1. Job Title of the key informant	
2. Department Key Informant	
3. Experience (in years) of the key informant in the organization	

Section A: Factors Influencing Effective Climate Finance Tracking

1. In your opinion, what is the current state of institutional capacity for climate finance tracking in Kenya's energy sector?
2. How effective is stakeholder coordination (government, private sector, donors) in supporting climate finance tracking?
3. How well are public financial management (PFM) systems integrated with climate finance tracking and reporting?
4. What improvements or capacity-building measures do you think are needed to strengthen climate finance tracking systems?

Section B: Effectiveness of Climate Finance Reporting

5. How would you describe the current quality and reliability of climate finance reports in the energy sector?
6. What challenges do you observe in ensuring data consistency and standardization across climate finance reports?
7. In your view, what capacity gaps exist (e.g., staffing, technical skills, tools) that affect climate finance reporting?
8. What measures or systems would you recommend to improve the accuracy, timeliness, and accessibility of climate finance reports?

Section C: Alignment of Climate Finance Flows with Kenya's NDC Commitments

9. To what extent do you think current climate finance allocations are aligned with Kenya's NDC targets for the energy sector?
10. What areas or projects do you believe are underfunded or overlooked in terms of climate finance support within Kenya's energy sector?
11. How transparent and accountable do you think current climate finance disbursement and tracking systems are within Kenya's energy sector?
12. What strategies, policies, or financial instruments could help improve alignment between climate finance flows and the energy sector NDC priorities?



Appendix III: NACOSTI PERMIT

 REPUBLIC OF KENYA Ref No: 503262	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION Date of Issue: 18/February/2026
RESEARCH LICENSE	
	
This is to Certify that Mr. ROBERT GUMBA OTIENO of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev:2014) in Nairobi on the topic: FACTORS INFLUENCING CLIMATE FINANCE TRACKING AND REPORTING FOR KENYA'S NATIONALLY DETERMINED CONTRIBUTION IMPLEMENTATION: FOCUS ON THE ENERGY SECTOR for the period ending : 18/February/2027.	
License No: NACOSTI/P/26/4184915	
503262 Applicant Identification Number	Ag. Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Verification QR Code 	
NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.	
See overleaf for conditions	

Appendix IV: Ethics Approval Letter



16th February 2026

Mr Otieno Robert,
robert.gumba@strathmore.edu

Dear Mr Otieno,

**RE: Factors Influencing Climate Finance Tracking and Reporting for Kenya's
Nationally Determined Contribution Implementation: Focus on the Energy Sector**

This is to inform you that SU-ISERC has reviewed and approved your above SU-masters research proposal. Your application reference number is SU-ISERC3345/26. The approval period is from 16th February 2026 to 15th February 2027.

This approval is subject to compliance with the following requirements:

- i. Only approved documents including (informed consents, study instruments, and MTA) will be used
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC.
- iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification
- iv. Any changes, anticipated or otherwise, that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-ISERC within 72 hours
- v. Clearance for the export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days of completion of the study to SU-ISERC.

Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke/> and obtain other clearances needed.

Yours sincerely,

Mr Ambrose Rachier,
Chairperson; SU-ISERC