

# Public Policy and Social Acceptance of Clean Technologies: Financing Implications for Renewable Energy Firms

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## ABSTRACT

Renewable-energy firms in emerging African markets face persistent financing constraints despite expanding policy commitments and demand for cleaner energy. This study examined how public policy and social acceptance jointly shaped financing conditions across four country-technology cases: solar mini-grids in Nigeria, geothermal energy in Kenya, wind energy in South Africa, and clean-cooking technologies in Ghana. A qualitative comparative case design was adopted. Evidence was obtained through a structured search of academic databases, official repositories, regulatory documents, development-finance reports, industry publications, and peer-reviewed studies published mainly between 2019 and 2025. Documents were analysed through deductive and inductive thematic coding, followed by within-case and cross-case comparison. Policy and acceptance conditions were classified using explicit rules based on corroborated evidence. The findings showed that credible policy reduced regulatory and revenue risks, while social acceptance influenced implementation, adoption, and demand certainty. Kenya and South Africa exhibited comparatively favourable financing conditions due to stronger risk-sharing and contractual arrangements, although community concerns remained. Nigeria combined growing mini-grid investment with tariff and affordability risks, while Ghana's clean-cooking market remained constrained by household purchasing power and uncertain sustained adoption. Technology characteristics conditioned these relationships: capital-intensive projects depended more on contractual and institutional certainty, whereas consumer-facing technologies were more exposed to affordability and uptake. The study concludes that financing improves where credible policy, social legitimacy, and technology-appropriate risk mitigation operate together.

**Keywords:** Policy Credibility; Social Acceptance; Renewable-Energy Finance; Investment Risk; Clean Technologies; Africa.

## INTRODUCTION

### Background to the Study

The global transition towards low-carbon development has increased policy and investment attention to renewable energy and other clean technologies. International climate commitments, including the Paris Agreement and the Sustainable Development Goals, have reinforced the role of clean technologies in climate-change mitigation, energy security, environmental sustainability, and long-term economic development (International Energy Agency [IEA], 2021; Sovacool et al., 2020). Despite this growing policy commitment, the pace and scale of renewable-energy deployment remain uneven, particularly across emerging and developing economies where financing constraints, institutional weaknesses, and social acceptance continue to affect project development.

The financing of renewable-energy projects differs fundamentally from the simple availability of investment capital. Investors and lenders evaluate the predictability of future cash flows, regulatory conditions, policy

continuity, implementation risks, project legitimacy, and the probability of delays or disruption. Consequently, the financing environment surrounding renewable-energy firms is shaped by both formal institutional arrangements and the social conditions within which projects operate. Stable and credible public policies can reduce regulatory uncertainty, strengthen investor confidence, and improve project bankability, while unstable policies can increase risk premiums and restrict access to long-term finance (Taghizadeh-Hesary & Yoshino, 2020; Luthra et al., 2023).

Public policy therefore represents an important institutional determinant of renewable-energy financing. Policy instruments such as feed-in tariffs, fiscal incentives, subsidies, licensing arrangements, guarantees, and regulatory frameworks can influence expected returns and perceived investment risk. Their effectiveness, however, depends substantially on policy consistency, implementation capacity, and regulatory credibility. Investors may respond less favourably to generous incentives that are vulnerable to reversal or inconsistent implementation than to more modest but predictable policy arrangements. Policy stability is therefore understood in this study as the predictability, credibility, consistency, and implementation of regulatory arrangements affecting renewable-energy investment.

Social acceptance constitutes a second important dimension of project viability. Renewable-energy projects frequently interact directly with communities through land use, tariffs, environmental impacts, employment expectations, service affordability, and benefit-sharing arrangements. Community trust, perceived fairness, awareness, and perceptions of technological and financial risk can influence whether projects receive sustained local support. Weak acceptance may contribute to opposition, project delays, disputes, implementation costs, and revenue uncertainty, thereby affecting financial viability. Conversely, stronger social acceptance can reduce conflict-related costs and improve project implementation and investor confidence (Wolsink et al., 2021; Murshed et al., 2022; Etten et al., 2024).

These relationships are particularly important in African renewable-energy markets. Firms often operate within relatively shallow domestic capital markets, constrained fiscal environments, foreign-exchange risks, institutional limitations, and substantial infrastructure deficits. Under such conditions, regulatory instability and community resistance may carry financing consequences that extend beyond individual projects. A project may be technologically viable but financially constrained because investors perceive its regulatory or social environment as insufficiently predictable.

Accordingly, this study considers three interconnected constructs: public policy stability, social acceptance, and financing outcomes. Financing outcomes extend beyond the availability of capital to include perceived investment risk, cost of capital, investor confidence, credit access, financing terms, and project bankability. Examining these constructs jointly provides a broader basis for understanding why comparable clean-energy ambitions may produce substantially different financing conditions across African markets.

### **Statement of the Research Problem**

Renewable-energy firms in many developing economies continue to face significant financing constraints despite stronger climate commitments, increased demand for clean energy, and expanding policy support. This problem is particularly important in Africa, where renewable-energy potential remains substantial but the mobilisation of affordable and long-term private capital remains uneven.

Existing policy interventions have attempted to improve renewable-energy investment through subsidies, tax incentives, concessional finance, regulatory reforms, feed-in mechanisms, guarantees, and public-private financing structures. Yet the existence of these instruments does not automatically translate into attractive financing conditions. Where regulatory rules are uncertain, implementation inconsistent, institutions weak, or policy commitments vulnerable to reversal, investors may continue to demand higher risk premiums or limit their exposure. Similarly, projects operating under apparently supportive policy regimes may encounter financing and implementation difficulties where communities question affordability, fairness, land allocation, environmental impacts, or the distribution of project benefits.

The central problem is therefore that renewable-energy financing is often treated primarily as a financial or policy problem, while the interaction between institutional credibility and social legitimacy receives less systematic attention. This separation limits understanding of the actual conditions under which policy support translates into improved financing outcomes. A favourable tariff regime may have limited effect where regulatory enforcement lacks credibility. Likewise, strong community support may reduce implementation difficulties but may not compensate fully for macro-regulatory uncertainty. The financing problem therefore requires an integrated assessment of how public policy and social acceptance jointly influence perceived investment risk, project bankability, capital costs, and access to finance.

This problem is examined through renewable-energy contexts in Nigeria, Kenya, South Africa, and Ghana, which provide contrasting policy, institutional, social, technological, and financing conditions.

### **Research Gap and Study Contribution**

Three related gaps motivate the study.

First, much of the existing literature examines renewable-energy policy, technology adoption, social acceptance, or financing barriers as relatively separate areas of inquiry. This fragmentation makes it difficult to establish how institutional and social conditions jointly influence financing decisions.

Second, although social acceptance has received considerable attention in the renewable-energy adoption literature, its direct implications for financing remain less developed. Community resistance may generate delays, disputes, additional transaction costs, demand uncertainty, and reputational risks. These effects can influence investor assessments, yet the transmission from social legitimacy to financing conditions has received comparatively limited examination.

Third, evidence combining policy credibility, social acceptance, and financing outcomes remains relatively limited within African renewable-energy markets. The study specifically identifies the scarcity of studies that examine these three dimensions together within African cases.

This study addresses these gaps through a comparative qualitative examination of renewable-energy activities in Nigeria, Kenya, South Africa, and Ghana. It develops an integrated policy-social-financing perspective in which public-policy credibility and social legitimacy influence financing outcomes partly through their effects on perceived investment risk.

The contribution is therefore threefold. Conceptually, the study connects institutional, stakeholder, and financing perspectives within a common analytical structure. Empirically, it applies this structure across selected African renewable-energy contexts. Practically, it provides a basis for understanding how governments, renewable-energy firms, development finance institutions, and private investors can reduce non-financial risks that ultimately affect the cost and accessibility of capital.

### **Objectives of the Study**

The broad objective of the study is to examine how public policy and social acceptance shape financing outcomes for renewable-energy firms in selected African markets.

Specifically, the study seeks to:

examine how public policy frameworks influence the financing environment of renewable-energy firms;

assess the role of social acceptance in shaping investor confidence, project risk profiles, and financial viability; and analyse the combined influence of public policy and social acceptance on financing outcomes across selected African renewable-energy cases.

## Research Questions

The study addresses the following questions:

How do public policy instruments and regulatory environments influence access to finance for renewable-energy firms?

In what ways does social acceptance affect project risk, financing costs, investor confidence, and the bankability of clean-technology projects?

How do policy conditions and social acceptance interact to shape financing outcomes across renewable-energy markets?

## Significance of the Study

The study has theoretical, policy, managerial, and investment relevance.

Theoretically, it brings together dimensions that are frequently examined separately by linking policy credibility, social legitimacy, perceived investment risk, and financing outcomes. This allows renewable-energy finance to be examined as an institutional and socio-financial process rather than purely as a question of capital supply.

For policymakers, the study provides evidence that the effectiveness of renewable-energy incentives depends partly on the credibility and stability of the policy environment within which those incentives operate. Policy continuity, regulatory clarity, transparent implementation, and effective stakeholder-engagement arrangements may therefore influence the financing consequences of renewable-energy policies.

For renewable-energy firms, the study places community engagement within financial-risk management. Trust, transparency, affordability concerns, benefit sharing, and stakeholder communication can affect implementation schedules and project uncertainty, with eventual consequences for bankability and financing costs.

For investors, commercial lenders, and development finance institutions, the study supports a broader approach to project assessment in which regulatory credibility and social risk complement conventional financial and technical due diligence. Such an approach is particularly relevant in emerging markets where non-financial uncertainties can materially affect project performance.

The study therefore contributes to cleaner-production and sustainable-finance research by clarifying how institutional and social conditions influence the financing environment surrounding clean-energy deployment.

## THEORETICAL AND CONCEPTUAL FRAMEWORK

### Conceptual Framework

The study's conceptual framework links public policy, social acceptance, perceived investment risk, and financing outcomes. It proposes that policy and acceptance affect financing mainly through their influence on regulatory, contractual, implementation, demand, and revenue risks. Technology characteristics and market conditions shape the strength and direction of these relationships.

Public policy forms the institutional foundation of renewable-energy investment. Regulatory stability, policy credibility, transparent licensing, predictable tariffs, enforceable contracts, and consistent implementation can reduce uncertainty and strengthen investor confidence. Fiscal incentives, guarantees, concessional finance, and risk-sharing arrangements may also improve project bankability by reducing risks that private financiers are unwilling to absorb. Their effectiveness nevertheless depends on credible implementation rather than their formal existence alone (Taghizadeh-Hesary & Yoshino, 2020; International Energy Agency [IEA], 2024).

Social acceptance represents the project's legitimacy among communities, consumers, and other affected stakeholders. Trust, technology awareness, affordability, perceived fairness, stakeholder participation, and benefit sharing can influence project approval, implementation, adoption, and revenue stability. Weak acceptance may generate opposition, delays, disputes, low uptake, and additional costs. Constructive engagement can reduce these uncertainties and strengthen project legitimacy, although acceptance may vary across communities and project locations (Sovacool, 2021; Abdi et al., 2024).

Perceived investment risk connects policy and acceptance to financing outcomes. Unstable regulation can increase regulatory and contractual risk, while weak acceptance can increase social, implementation, demand, and revenue risks. Financiers may respond through higher risk premiums, shorter loan tenors, restrictive conditions, or refusal to provide capital. Conversely, credible policy and social legitimacy can improve lender confidence, access to debt and equity, financing terms, and overall project bankability.

Technology characteristics and market conditions qualify these relationships. Capital-intensive geothermal and wind projects depend strongly on exploration-risk allocation, procurement credibility, contractual certainty, and long-term revenue arrangements. Solar mini-grids and clean-cooking technologies are more directly exposed to affordability, customer uptake, payment behaviour, and demand stability (Sesan et al., 2024). The framework therefore does not assume that policy or acceptance operates identically across technologies.

The central analytical pathway is:

**Policy credibility and social legitimacy → lower perceived investment risk → improved financing conditions.**

## THEORETICAL FRAMEWORK

This study is anchored on Institutional Theory, Stakeholder Theory, and Financing Constraint Theory because these perspectives jointly explain how regulatory credibility, social legitimacy, and perceived investment risk shape financing outcomes for renewable-energy firms.

Institutional Theory explains how formal rules, regulatory structures, enforcement arrangements, and institutional credibility influence organisational behaviour and investment decisions. Institutions provide the framework within which firms operate and therefore affect predictability, legitimacy, and uncertainty (Scott, 2014). In renewable-energy markets, stable tariffs, transparent procurement, credible licensing procedures, enforceable contracts, and policy continuity can reduce regulatory uncertainty and strengthen investor confidence. Where policies are unstable or implementation is weak, perceived investment risk may rise, thereby increasing financing costs and limiting access to long-term capital. Institutional Theory therefore provides the main explanation for the public-policy dimension of the study.

Stakeholder Theory complements this perspective by explaining how relationships among firms, communities, governments, investors, regulators, and other affected groups influence project legitimacy and performance. The theory emphasises that organisational outcomes depend partly on how effectively stakeholder interests are recognised and managed (Freeman et al., 2021). For renewable-energy projects, community trust, stakeholder participation, perceived fairness, affordability concerns, and benefit-sharing arrangements can affect acceptance and implementation. Weak stakeholder relations may lead to opposition, delays, disputes, and additional transaction costs, while constructive engagement can reduce conflict and strengthen project legitimacy. Stakeholder Theory therefore provides the basis for explaining the social-acceptance dimension of renewable-energy financing.

Financing Constraint Theory explains how institutional and social risks may translate into restricted access to capital. Information asymmetry, lender uncertainty, and heightened perceptions of project risk can produce credit constraints, higher financing costs, and shorter financing tenors. Contemporary evidence similarly indicates that regulatory, revenue, currency, and project risks can substantially raise the cost of capital for clean-energy investment in emerging markets (International Energy Agency [IEA], 2024). This is particularly relevant to renewable-energy firms operating in emerging markets, where regulatory uncertainty, project

delays, revenue instability, and perceived social risk may increase lenders' and investors' risk assessments. These conditions can result in higher risk premiums, shorter loan tenors, restricted credit access, and weaker project bankability. Conversely, guarantees, concessional finance, blended-finance structures, and credible risk-sharing mechanisms can reduce financing constraints by absorbing risks that private financiers may otherwise be unwilling to bear.

Taken together, the three theories provide an integrated explanation of the study's central relationship. Institutional Theory explains how policy credibility shapes regulatory uncertainty; Stakeholder Theory explains how social legitimacy affects project acceptance and implementation risk; and Financing Constraint Theory explains how these risks influence access to capital and financing conditions. The resulting theoretical pathway is therefore: policy credibility and social legitimacy influence perceived investment risk, which in turn shapes financing outcomes. This integrated framework provides a concise basis for analysing why renewable-energy firms are more likely to secure favourable financing where regulatory institutions are credible, stakeholder relationships are constructive, and perceived project risks are lower.

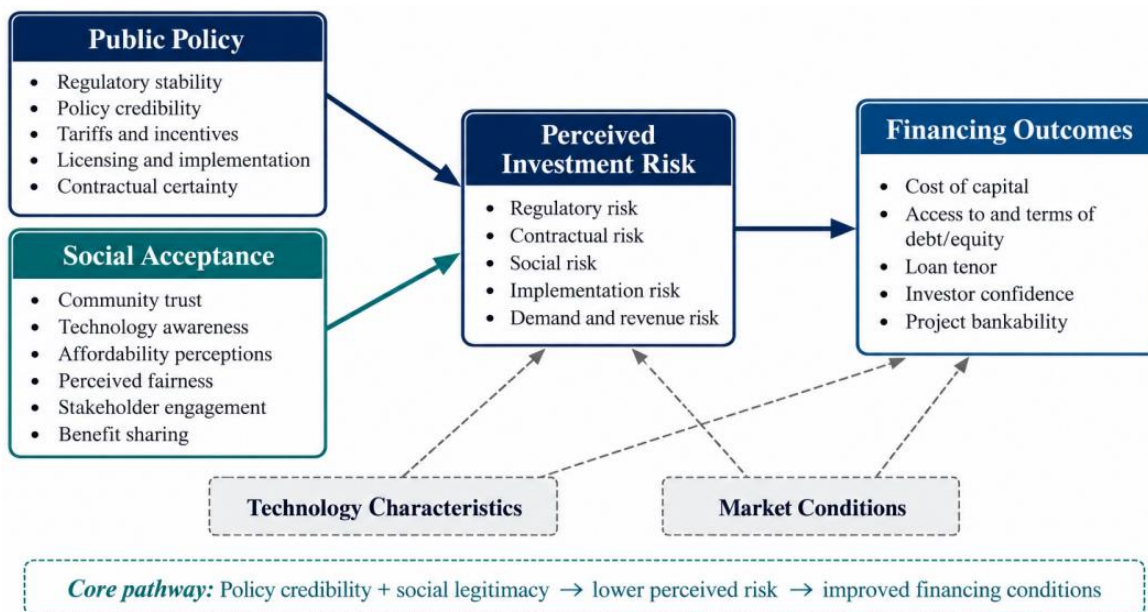


Figure 1 Conceptual Framework Linking Public Policy, Social Acceptance, Perceived Investment Risk and Financing Outcomes.

Source: Authors' conceptualisation based on Institutional Theory, Stakeholder Theory and Financing Constraint Theory

## LITERATURE REVIEW

### Public Policy and Clean Technology Deployment

Public policy shapes renewable-energy investment through regulation, incentives, procurement, licensing, tariffs, guarantees, and public risk sharing. These instruments can improve expected returns and reduce uncertainty, but their effect depends on implementation credibility. Predictable rules, transparent procurement, enforceable contracts, and stable revenue arrangements generally support investor confidence and longer-term financing. Policy reversal, licensing delays, weak enforcement, and tariff uncertainty increase risk premiums and constrain capital access, especially in emerging markets (Taghizadeh-Hesary & Yoshino, 2020; IEA, 2024).

African experience illustrates this distinction. Kenya's public participation in geothermal-resource development reduced exploration risk, while South Africa's standardised procurement and power-purchase arrangements supported repeated financial close. Nigeria's mini-grid regulation encouraged private participation, but affordability, regulatory interpretation, and implementation gaps continued to affect market

expansion (Isah et al., 2023; Sesan et al., 2024). Policy effectiveness therefore depends less on the number of incentives than on regulatory continuity, institutional capacity, and credible risk allocation.

### **Social Acceptance of Renewable-Energy Technologies**

Social acceptance concerns how communities, consumers, and other stakeholders perceive the fairness, affordability, risks, benefits, and local suitability of renewable-energy projects. It is shaped by trust, participation, technology awareness, land use, benefit sharing, cultural compatibility, and service affordability. Acceptance is therefore dynamic and may differ across technologies, communities, and stages of project development (Sovacool, 2021; Abdi et al., 2024).

Weak acceptance can delay approvals, generate disputes, increase implementation costs, and weaken expected revenues. These effects are particularly important where projects require land access or sustained consumer adoption. Kenya's geothermal experience shows that employment and community benefits can support acceptance, while land rights and benefit distribution may generate local concerns. Nigeria's mini-grids face demand for reliable electricity but remain exposed to tariff affordability and household payment capacity (Sesan et al., 2024).

Ghana's clean-cooking transition illustrates a more consumer-dependent acceptance problem. Equipment cost, access to credit, fuel availability, awareness, and compatibility with established cooking practices influence both initial adoption and continued use (Twumasi et al., 2020; Nuhu et al., 2022). Social acceptance therefore affects financing mainly through implementation, adoption, demand, and revenue risk.

### **Financing Renewable-Energy Firms**

Renewable-energy financing in emerging markets involves commercial banks, institutional investors, development finance institutions, impact investors, public agencies, and blended-finance arrangements. Common instruments include concessional loans, guarantees, performance-based grants, green bonds, carbon finance, and equity participation. These instruments address high initial costs, long repayment periods, uncertain revenues, and risks that private financiers may be unwilling to bear (Taghizadeh-Hesary & Yoshino, 2020; IEA, 2024).

Financing constraints are not determined by capital availability alone. Investors assess regulatory continuity, contractual protection, project delays, community opposition, demand stability, foreign-exchange exposure, and repayment capacity. Credible policy can reduce regulatory and revenue risks, while social legitimacy can limit delays, disputes, and adoption uncertainty. Where both conditions are weak, public support may fail to attract sustained commercial capital.

Technology also affects financing requirements. Geothermal and utility-scale wind require substantial upfront investment, long development periods, and durable contractual arrangements. Mini-grids and clean-cooking technologies have smaller individual investment requirements but greater exposure to affordability, customer uptake, and revenue collection. Financing outcomes must therefore be interpreted in relation to both country conditions and technology-specific risks.

### **Research Gap and Analytical Propositions**

Three gaps remain. First, policy credibility, social acceptance, and financing outcomes are commonly examined separately, limiting understanding of how they interact. Second, social acceptance research concentrates mainly on adoption and project opposition, with less attention to its implications for capital costs, financing terms, and bankability. Third, comparative African evidence remains limited, particularly across technologies with different capital structures and revenue models.

This study addresses these gaps through an integrated comparison of solar mini-grids in Nigeria, geothermal energy in Kenya, wind energy in South Africa, and clean-cooking technologies in Ghana. It examines how

policy and acceptance shape financing through perceived regulatory, contractual, implementation, demand, and revenue risks.

The analysis is guided by three propositions:

**P1:** Stable and credible policy conditions are associated with lower perceived investment risk and more favourable financing outcomes.

**P2:** Stronger social acceptance is associated with lower implementation, adoption, and revenue risks.

**P3:** Financing conditions are most favourable where policy credibility and social legitimacy jointly reduce perceived investment risk.

## METHODOLOGY

### Research Design

The study adopted a qualitative comparative multiple-case design to examine how public policy and social acceptance shaped renewable-energy financing in Nigeria, Kenya, South Africa, and Ghana. The country-technology cases were Nigeria's solar mini-grids, Kenya's geothermal energy, South Africa's wind energy, and Ghana's clean-cooking technologies. This design supported within-case analysis and structured comparison of policy credibility, social acceptance, investment risk, and financing conditions across contrasting settings (Priya, 2021).

### Case Selection and Unit of Analysis

Cases were purposively selected using five criteria: policy relevance, technological importance, documented acceptance challenges, identifiable financing arrangements, and availability of credible evidence. The unit of analysis was the renewable-energy financing environment surrounding each country-technology case.

Technology was treated as a contextual condition rather than held constant. The analysis therefore did not interpret observed differences as pure country effects. It examined how policy and social conditions operated through the scale, capital intensity, revenue structure, and user interface of each technology.

### Documentary Search Strategy

A structured documentary search covered Scopus, Web of Science, and Google Scholar, together with repositories maintained by the IEA, IRENA, World Bank, African Development Bank, national energy ministries, regulators, rural-electrification agencies, and project-implementing institutions. Search strings combined country and technology terms with the study constructs. A representative search string was:

("Nigeria" OR "Kenya" OR "South Africa" OR "Ghana") AND ("solar mini-grid" OR "geothermal" OR "wind energy" OR "clean cooking") AND ("public policy" OR regulation OR tariff OR incentive) AND ("social acceptance" OR community OR affordability OR trust) AND (finance OR investment OR bankability OR "cost of capital").

Searches primarily covered January 2019 to December 2025. Earlier documents were retained where they established a governing policy, regulatory instrument, procurement programme, or financing arrangement still operating during the review period. The final search was completed on [insert actual date].

### Inclusion and Exclusion Criteria

#### Documents were included where they:

addressed one of the four country-technology cases; contained evidence on policy, acceptance, financing, or investment risk; originated from a peer-reviewed journal, public authority, development institution, recognised

industry body, or identifiable project organisation; and provided sufficient methodological or documentary detail to support interpretation.

Documents were excluded where they were duplicative, purely promotional, unrelated to the selected technology, unsupported by identifiable evidence, or limited to technical performance without policy, social, or financing relevance. Where several documents reported the same programme or event, preference was given to the original policy, regulatory, project, or institutional source.

## Document Selection

Titles and executive summaries were screened for relevance, followed by full-text assessment against the inclusion criteria. The retained documents were classified by country, year, source type, technology, policy evidence, acceptance evidence, financing structure, and risk implications.

The final corpus contained approximately 25–35 documents per case. The exact number retained for each case, together with the distribution by source type, should be reported in Table 1 or a supplementary documentary inventory. This inventory should provide the author or institution, year, title, document type, case, and analytical use of every retained source.

## Coding and Classification Protocol

The retained documents were coded using a structured codebook developed from the conceptual framework and refined during analysis. The unit of coding was a statement, finding, policy provision, or reported project outcome relating to policy conditions, social acceptance, investment risk, or financing.

Coding proceeded in four stages. First, each document was classified by case, year, source type, and technology. Second, relevant evidence was assigned to deductive codes derived from the analytical framework. Third, inductive codes were added where recurrent evidence was not adequately captured by the initial codebook. Finally, coded evidence was compared within and across cases to determine the direction, consistency, and strength of each pattern, following established thematic-analysis procedures (Braun & Clarke, 2021).

**Table 1. Operational Coding and Evidence-Classification Protocol**

| Analytical dimension | Codes and observable indicators                                                                                                          | Positive evidence                                                                                                                         | Adverse evidence                                                                                                                         |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Policy conditions    | Regulatory continuity; policy clarity; implementation; enforcement; tariff arrangements; procurement; guarantees; contractual protection | Stable rules, credible implementation, transparent procurement, enforceable contracts and sustained risk-mitigation support               | Policy reversal, regulatory ambiguity, weak enforcement, licensing delays, tariff uncertainty and inconsistent implementation            |
| Social acceptance    | Trust; participation; perceived fairness; affordability; benefit sharing; cultural compatibility; uptake; opposition                     | Meaningful consultation, sustained adoption, perceived benefits, affordable access, effective grievance mechanisms and limited opposition | Community resistance, distrust, low adoption, affordability constraints, land disputes, cultural incompatibility and perceived exclusion |
| Investment risk      | Regulatory risk; construction risk; demand risk; implementation risk; delay; revenue uncertainty                                         | Reduced delays, predictable revenue, stable demand, effective guarantees and manageable project risk                                      | Cost escalation, implementation disruption, uncertain demand, delayed approvals, payment risk and unstable revenue                       |
| Financing outcomes   | Capital availability; cost and tenor; lender participation; bankability; financing structure                                             | Commercial lending, institutional investment, longer tenors, lower risk premiums and diversified capital sources                          | Dependence on grants, short financing tenors, high risk premiums, limited commercial lending and weak bankability                        |

|                    |                                                                                         |                                                                                               |                                                                                                                   |
|--------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Technology context | Capital intensity; project scale; development period; revenue model; consumer interface | Characteristics that support predictable cash flow, contractual security or scalable adoption | High upfront costs, long development periods, affordability exposure, uncertain uptake or weak revenue collection |
|--------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|

Source: Authors' operationalisation based on the conceptual framework and documentary evidence.

### Classification Rules

Each case was classified as strong, moderate, mixed, or low based on the balance and consistency of evidence. No classification was assigned from a single document. A conclusion required corroboration from at least two independent sources, preferably drawn from different source categories.

**Table 2. Decision Rules for Policy and Social-Acceptance Classifications**

| Classification | Policy-condition rule                                                                                                                                                          | Social-acceptance rule                                                                                                                   |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Strong         | Evidence showed regulatory continuity, credible implementation, functioning enforcement, and effective institutional or financial support, with no major contradictory pattern | Evidence showed sustained uptake, trust, participation, perceived benefits, and limited material opposition                              |
| Moderate       | A supportive framework existed and was partly implemented, but identifiable regulatory, enforcement, or institutional weaknesses remained                                      | Acceptance was generally favourable, but affordability, awareness, participation, or benefit-distribution concerns persisted             |
| Mixed          | Supportive instruments coexisted with substantial uncertainty, inconsistent implementation, or contradictory evidence across periods or institutions                           | Positive acceptance and material resistance occurred simultaneously or differed across communities, locations, or stakeholder groups     |
| Low            | Evidence predominantly showed weak implementation, instability, poor enforcement, or limited institutional support                                                             | Evidence predominantly showed low uptake, distrust, sustained opposition, serious affordability constraints, or cultural incompatibility |

Source: Authors' coding protocol.

Classification considered the quality, independence, and consistency of evidence rather than the number of favourable statements alone. Official documents established formal policy provisions, while independent academic, development-finance, industry, and project sources were used to assess implementation and outcomes. Promotional claims were not treated as sufficient evidence unless independently corroborated.

Contradictory evidence was retained. Where positive and adverse findings were of comparable importance, the case was classified as mixed. Where evidence was incomplete, the classification was recorded as provisional rather than inferred from the absence of reported opposition.

The research team reviewed the preliminary coding matrix through peer debriefing. Disputed classifications were reconsidered against the original documents and resolved through collective agreement. An audit trail recorded code revisions, evidence sources, classification decisions, and contrary findings. This procedure strengthened coding transparency and consistency (O'Connor & Joffe, 2020).

### Cross-Case Analysis

Analysis proceeded in two stages. First, each case was examined independently to trace the relationship between policy conditions, social acceptance, risk, and financing. Second, a structured cross-case matrix identified similarities, differences, and rival explanations.

Comparisons were adjusted for technological differences. Geothermal and utility-scale wind were assessed mainly through capital intensity, development lead time, contractual certainty, and construction risk. Solar mini-grids and clean-cooking technologies were assessed more directly through affordability, user adoption, demand stability, and revenue collection. The cross-case analysis therefore identified conditional patterns rather than ranking countries on an assumed technologically equivalent basis.

### Trustworthiness and Ethics

Credibility was strengthened through source triangulation, evidence tables, negative-case examination, and direct linkage between classifications and supporting documents. Dependability was supported through a documented search strategy, extraction form, codebook, and audit trail. Confirmability was addressed by retaining contradictory evidence and distinguishing documentary findings from author interpretation.

The study used publicly accessible secondary materials and involved no human participants or personally identifiable data. Formal human-subject ethical approval was therefore not required.

### Methodological Limitations

The analysis was limited by uneven documentary coverage, differences in source quality, and variation in technology scale and business models. Documentary evidence may also underreport unsuccessful projects, community disagreement, or commercially sensitive financing terms. Accordingly, the findings identify comparative patterns and plausible mechanisms rather than causal effects or directly equivalent national rankings.

### Results and Analysis

The analysis showed that policy credibility and social acceptance affected financing through different but related risk channels. Policy continuity and enforceable contractual arrangements reduced regulatory and revenue risk, while community trust, affordability, and participation affected adoption, implementation delays, and demand stability. Kenya and South Africa presented comparatively stronger financing environments. Nigeria retained substantial market potential but depended heavily on concessional support, while Ghana's clean-cooking market remained constrained by affordability and adoption risks.

**Table 3. Source-Linked Cross-Case Evidence on Policy, Social Acceptance and Financing**

| Case and technology       | Policy conditions and supporting evidence                                                                                                                                                                                                        | Social-acceptance evidence                                                                                                                                                                                  | Financing evidence and interpretation                                                                                                                                    | Classification                                                     |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Nigeria: solar mini-grids | Mini-grid regulation and development-finance support expanded private participation, but tariff design, regulatory interpretation, market selection, and implementation gaps remained material concerns (Isah et al., 2023; Sesan et al., 2024). | Demand for reliable electricity supported uptake, but affordability, tariff understanding, trust, and the limited purchasing capacity of rural communities produced uneven acceptance (Sesan et al., 2024). | Performance-based grants and concessional facilities supported market growth. Persistent revenue and affordability risks continued to restrict fully commercial finance. | Policy: Moderate; acceptance: Mixed; financing risk: Moderate–High |
| Kenya: geothermal energy  | Public financing of exploration, government-led resource development, sector planning, and institutional risk sharing reduced early-stage geothermal risk and supported private participation (World Bank,                                       | Community acceptance was generally favourable where employment, infrastructure, consultation, and local benefits were visible. Land rights, displacement, trust, and                                        | Government participation, DFI lending, guarantees, and public–private arrangements reduced exploration and construction risks and supported longer-term                  | Policy: Strong; acceptance: Moderate; financing risk: Low–Moderate |

|                           |                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                     |                                                                  |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
|                           | 2023a).                                                                                                                                                                                                                                                                                                       | benefit distribution remained location-specific concerns (Abdi et al., 2024).                                                                                                                                                         | finance.                                                                                                                                                                                                                                            |                                                                  |
| South Africa: wind energy | REIPPPP provided competitive procurement, standardised contracts, long-term power-purchase arrangements, and defined economic-development obligations. Official records confirm extensive financial close and operational delivery across procurement rounds (IPP Office, 2021, 2024).                        | Employment, community trusts, local procurement, and socioeconomic-development expenditure created benefits, but expectations concerning ownership, benefit timing, participation, and local distribution produced mixed perceptions. | Contractual revenue certainty and established procurement procedures attracted commercial banks, institutional investors, and international finance. Community concerns remained an implementation risk rather than a general barrier to financing. | Policy: Strong; acceptance: Mixed; financing risk: Moderate      |
| Ghana: clean cooking      | Ghana maintained formal commitments to LPG, improved biomass stoves, and electric cooking. However, the continued development of a dedicated clean-cooking policy, strategy, investment prospectus, and performance regulations indicated incomplete implementation architecture (Government of Ghana, 2025). | Adoption was constrained by equipment cost, fuel affordability, access to credit, awareness, and compatibility with established cooking practices (Twumasi et al., 2020; Yang et al., 2021; Nuhu et al., 2022; Mawusi et al., 2025).  | Demand uncertainty and weak household purchasing power increased reliance on grants, subsidies, carbon finance, results-based finance, and impact investment rather than conventional commercial lending (ESMAP, 2023).                             | Policy: Moderate; acceptance: Low–Moderate; financing risk: High |

Source: Authors' synthesis of the documentary evidence cited in the table.

### Public Policy and Financing Outcomes

The evidence supported the proposition that credible policy arrangements improved financing conditions. Kenya reduced geothermal exploration risk through public-sector participation and development-finance support, making later project stages more attractive to private investors. South Africa's competitive procurement process, standardised contractual arrangements, and long-term power-purchase framework strengthened revenue predictability. Official programme records also documented substantial investment and repeated achievement of financial close (IPP Office, 2021, 2024).

Nigeria's mini-grid framework stimulated private entry and was reinforced by development-finance programmes. However, regulatory gaps, affordability constraints, and the commercial preference for more viable communities limited equitable market expansion (Sesan et al., 2024). Ghana established clean-cooking targets but continued to develop the dedicated policy, investment, and regulatory architecture needed to translate those commitments into a mature commercial market (Government of Ghana, 2025).

### Social Acceptance and Financing Risk

Social acceptance affected financing mainly through implementation, demand, and revenue risk. In Nigeria, unmet electricity demand encouraged mini-grid adoption, but tariff affordability and limited rural purchasing power weakened revenue certainty. Acceptance was therefore classified as mixed rather than strong.

Kenya's geothermal case showed that employment, infrastructure provision, consultation, and perceived local benefits could strengthen acceptance. However, concerns about land, displacement, trust, and benefit

distribution varied across affected communities, preventing a uniformly strong classification (Abdi et al., 2024).

South Africa's wind programme generated employment, local procurement, community trusts, and socioeconomic-development expenditure. Yet the distribution and timing of these benefits did not always correspond with community expectations. Acceptance was therefore mixed even though financing structures remained comparatively developed.

Ghana presented the clearest demand-side constraint. Upfront equipment costs, fuel prices, credit limitations, awareness, and established cooking practices restricted sustained adoption (Twumasi et al., 2020; Nuhu et al., 2022; Mawusi et al., 2025). These conditions increased revenue uncertainty and reinforced dependence on concessional and results-based finance.

### **Joint Policy and Social Effects**

Financing conditions were strongest where credible policy reduced institutional risk and social legitimacy reduced implementation or demand risk. Kenya most closely reflected this interaction: public risk sharing improved project bankability, while community benefits supported implementation, although local disputes remained. South Africa also combined strong procurement institutions with structured community obligations, but uneven perceptions of benefit distribution sustained some social risk.

Nigeria demonstrated a different configuration. Strong demand for reliable electricity supported acceptance, yet affordability and regulatory implementation weakened commercial viability. Ghana combined formal policy ambition with persistent adoption and affordability constraints, producing the least favourable conditions for conventional commercial finance.

P3 therefore received the strongest cross-case support. Policy and social acceptance were complementary risk-reduction conditions, although their relative importance differed by technology and financing model.

### **Technology-Specific Conditions and Cross-Case Comparability**

Cross-case interpretation accounted for differences in project scale, capital intensity, development period, revenue model, and user interaction. The four technologies were therefore compared through common risk mechanisms rather than treated as technically or financially equivalent.

Geothermal projects require substantial exploration expenditure before resource availability can be confirmed. Kenya's financing conditions consequently depended heavily on public exploration, guarantees, long-term planning, and institutional risk sharing. Community acceptance affected land access, project continuity, and the legitimacy of project development, but it did not operate primarily through household purchasing decisions (Abdi et al., 2024; World Bank, 2023a).

South African wind projects were similarly capital intensive and depended on competitive procurement, grid access, long-term power-purchase agreements, and achievement of financial close. Social acceptance operated mainly through land use, local employment, community ownership, benefit distribution, and perceived procedural fairness. These concerns could affect implementation, but project revenue depended principally on contractual electricity sales rather than household-level adoption (IPP Office, 2021, 2024).

Nigeria's solar mini-grids had lower individual project costs and shorter development periods but faced greater exposure to local demand, tariff affordability, customer concentration, and payment collection. Social acceptance therefore affected both implementation and revenue. Community willingness to connect, consume electricity, and pay cost-reflective tariffs directly influenced project viability (Sesan et al., 2024).

Ghana's clean-cooking technologies were the most consumer-dependent case. Financing outcomes were closely connected to appliance affordability, fuel availability, cultural compatibility, repeated use, and access to household credit. Initial adoption did not necessarily establish sustained usage. This increased demand

uncertainty and dependence on subsidies, carbon finance, grants, and results-based financing (Nuhu et al., 2022; ESMAP, 2023; Mawusi et al., 2025).

**Table 4. Technology-Specific Basis of Cross-Case Interpretation**

| Technology                | Dominant project characteristics                                     | Main policy-risk channel                                                     | Main social-acceptance channel                                          | Financing implication                                                                          |
|---------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Kenya: geothermal         | High capital intensity, exploration risk and long development period | Resource-risk allocation, guarantees and regulatory continuity               | Land access, consultation, displacement and benefit sharing             | Greater need for public risk absorption, DFI finance and long-term capital                     |
| South Africa: wind        | Utility-scale investment, grid dependence and contractual revenue    | Procurement credibility, grid access and power-purchase certainty            | Land use, employment, community ownership and benefit distribution      | Bankability depends strongly on contracts, procurement integrity and financial close           |
| Nigeria: solar mini-grids | Decentralised projects, localised demand and tariff-based revenue    | Licensing, tariff approval and regulatory implementation                     | Trust, affordability, connection and willingness to pay                 | Revenue uncertainty increases dependence on grants, concessional funding and blended finance   |
| Ghana: clean cooking      | Household technology, repeated fuel use and consumer-led demand      | Product standards, subsidies, market development and implementation capacity | Affordability, awareness, cultural compatibility and sustained adoption | Weak demand certainty favours results-based finance, carbon finance, grants and impact capital |

Source: Authors' synthesis from Abdi et al. (2024), Sesan et al. (2024), IPP Office (2021, 2024), ESMAP (2023), Nuhu et al. (2022), and Mawusi et al. (2025).

The comparisons should therefore be interpreted as mechanism-based rather than as absolute country rankings. Policy credibility reduced risk across all cases, but the relevant risk differed by technology. In geothermal and wind projects, policy primarily affected exploration, construction, contractual, and regulatory risks. In mini-grids and clean cooking, policy and acceptance operated more directly through tariffs, affordability, adoption, and revenue collection.

Technology type therefore conditioned the policy–social acceptance–financing relationship without displacing it. This qualification prevents stronger financing outcomes in Kenya and South Africa from being attributed solely to superior national policy or social conditions. It also explains why Nigeria and Ghana remained more dependent on concessional or blended finance despite strong underlying demand for cleaner and more reliable energy.

## Implications

The findings show that renewable-energy financing in African markets is shaped by the combined effects of regulatory credibility, social legitimacy, and perceived investment risk. Financing conditions improve where policy frameworks are predictable, community relations are constructive, and project risks are reduced through credible institutional and financial arrangements. The implications therefore extend to public policy, firm strategy, and investment practice.

## Policy Implications

Governments should place greater emphasis on **policy credibility and implementation consistency** rather than on the number of incentives offered. Stable tariff regimes, transparent licensing procedures, predictable procurement arrangements, enforceable power-purchase agreements, and sustained regulatory commitments can reduce uncertainty and improve investor confidence. The comparative evidence from Kenya and South

Africa suggests that stronger institutional arrangements and clearer risk-sharing mechanisms are associated with more favourable financing conditions.

Public policy should also integrate social acceptance into renewable-energy regulation. Community consultation, social-impact assessment, grievance mechanisms, benefit-sharing arrangements, and transparent communication should form part of project approval and monitoring. These measures can reduce implementation delays and community-related risks that eventually affect project cost and bankability. Governments should further support blended-finance structures, guarantees, concessional facilities, and other de-risking instruments where market conditions limit access to commercial capital. Such interventions are especially relevant for technologies and markets in which perceived policy, demand, or social risks remain high.

### **Implications for Renewable-Energy Firms**

Renewable-energy firms should treat social acceptance as part of **financial and project-risk management**. Community trust, affordability concerns, perceptions of fairness, and stakeholder engagement can influence project timelines, demand stability, operating costs, and investor perceptions.

Firms should therefore establish structured engagement mechanisms before and during project implementation, communicate tariffs and service expectations clearly, and create effective grievance-redress and benefit-sharing arrangements. The study also stresses the value of proactive engagement, transparency, and community accountability in reducing delays and strengthening project legitimacy.

Corporate financing strategies should also align with prevailing policy frameworks and available public or development-finance instruments. Firms operating in higher-risk environments may improve bankability by combining commercial capital with guarantees, concessional finance, grants, or other de-risking mechanisms. Strong governance and transparent reporting can further improve lender confidence and access to both debt and equity.

### **Implications for Investors and Development Finance Institutions**

Investors and lenders should broaden renewable-energy due diligence beyond conventional financial and technical indicators. Regulatory credibility, stakeholder relations, community acceptance, policy continuity, and implementation risk should be incorporated systematically into investment appraisal because these factors can influence repayment capacity, project delays, revenue stability, and long-term viability.

The findings therefore support the inclusion of **policy and social-risk screening** within investment and ESG assessment. Investors should distinguish between projects that appear financially attractive in principle and those that operate within credible institutional and socially supportive environments. The study already notes that policy consistency, community acceptance, and stakeholder engagement should move closer to the centre of investment-risk assessment.

Development finance institutions also retain an important role in markets where commercial finance remains constrained. Guarantees, concessional lending, credit enhancement, and risk-sharing structures can absorb part of the uncertainty associated with weak institutions, early-stage technologies, or limited commercial lending. However, such instruments should complement rather than substitute for regulatory reform and stakeholder legitimacy.

Overall, the study suggests that renewable-energy financing should be approached as a **combined institutional, social, and financial process**. Better financing outcomes are most likely where credible policy, community acceptance, firm governance, and appropriate risk-sharing arrangements operate together.

## **CONCLUSION**

This study examined how public policy and social acceptance shaped renewable-energy financing across solar

mini-grids in Nigeria, geothermal energy in Kenya, wind energy in South Africa, and clean-cooking technologies in Ghana. The comparative evidence showed that financing conditions improved where credible policy reduced regulatory uncertainty and social legitimacy reduced implementation, adoption, and revenue risks.

Kenya and South Africa presented comparatively favourable financing environments. Kenya's public participation in geothermal-resource development and risk sharing supported long-term finance, while South Africa's competitive procurement and contractual arrangements strengthened revenue certainty. However, community concerns over land, participation, ownership, and benefit distribution remained relevant in both cases. Nigeria's mini-grid framework encouraged investment, but tariff affordability, regulatory implementation, and local revenue risks continued to constrain commercial finance. Ghana's clean-cooking market remained exposed to household purchasing power, cultural compatibility, fuel availability, and uncertain sustained adoption, increasing reliance on grants, subsidies, carbon finance, and impact capital.

The findings supported the study's central proposition that policy support and social acceptance produced stronger financing outcomes when they operated together. Their effects nevertheless differed by technology. Capital-intensive geothermal and wind projects depended heavily on contractual certainty, guarantees, public risk sharing, and long investment horizons. Solar mini-grids and clean-cooking technologies were more directly affected by affordability, customer uptake, payment behaviour, and demand stability. Cross-country differences should therefore be interpreted as conditional patterns rather than absolute national rankings.

The study contributes an integrated policy–social acceptance–financing framework for assessing renewable-energy bankability in emerging markets. For policymakers, the evidence supports predictable regulation, credible implementation, transparent procurement, and technology-appropriate risk mitigation. Renewable-energy firms should incorporate stakeholder participation, affordability, benefit sharing, and grievance management into project-risk planning. Investors and development-finance institutions should assess regulatory and social risks alongside conventional technical and financial indicators.

The conclusions remain limited by reliance on documentary evidence, unequal source coverage, and differences among the selected technologies. The analysis identified plausible relationships rather than causal effects. Future research should test the framework using project-level financing data, investor surveys, community evidence, and longitudinal analysis of policy changes. Such research could determine more precisely how regulatory and social risks affect capital costs, financing tenors, project delays, and investment performance.

## REFERENCES

1. Abdi, A. M., Murayama, T., Nishikizawa, S., Suwanteep, K., & Mariita, N. O. (2024). Determinants of community acceptance of geothermal energy projects: A case study on a geothermal energy project in Kenya. *Renewable Energy Focus*, 50, Article 100594. <https://doi.org/10.1016/j.ref.2024.100594>
2. Adebayo, T. S., Awosusi, A. A., & Kirikkaleli, D. (2023). Renewable energy transition, policy uncertainty, and investment risk in sub-Saharan Africa. *Energy Policy*, 173, Article 113360.†
3. Agyekum, E. B. (2022). Renewable energy investment barriers and policy responses in Africa: A systematic review. *Renewable and Sustainable Energy Reviews*, 158, Article 112123.†
4. Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. SAGE.
5. Chiroleu-Assouline, M., & Fodha, M. (2021). From environmental policy stringency to green innovation: A survey. *Energy Economics*, 100, Article 105302.†
6. Energy Sector Management Assistance Program. (2023). *Unlocking clean cooking pathways: A practitioner's keys to progress*. World Bank. <https://documents1.worldbank.org/curated/en/099095503072317708/pdf/P1742320fcb6a8051083c008061576a2156.pdf>
7. Etten, E. J., Polzin, F., & von Flotow, P. (2024). Policy credibility and renewable energy finance: Evidence from emerging markets. *Energy Policy*, 184, Article 113950.†

8. Freeman, R. E., Dmytriiev, S. D., & Phillips, R. A. (2021). Stakeholder theory and the resource-based view of the firm. *Journal of Management*, 47(7), 1757–1770. <https://doi.org/10.1177/0149206321993576>
9. Government of Ghana. (2025). National Energy Compact for the Republic of Ghana. <https://thedocs.worldbank.org/en/doc/59ef89e92a3aef70e33c42518df9a0c8-0010012025/original/Ghana-National-Energy-Compact-Mission-300.pdf>
10. Independent Power Producers Procurement Programme Office. (2021). REIPPPP focus on wind: Quarterly report as at 30 June 2021. [https://www.ipp-projects.co.za/\\_entity/annotation/21d0ec1d-6036-ec11-9556-2c59e59ac9cd](https://www.ipp-projects.co.za/_entity/annotation/21d0ec1d-6036-ec11-9556-2c59e59ac9cd)
11. Independent Power Producers Procurement Programme Office. (2024). Independent Power Producers Procurement Programme provincial overview: Quarter ending June 2024. [https://www.ipp-projects.co.za/\\_entity/annotation/a2f05103-2bc1-ef11-95e0-00505685662d](https://www.ipp-projects.co.za/_entity/annotation/a2f05103-2bc1-ef11-95e0-00505685662d)
12. International Energy Agency. (2021). World energy outlook 2021. <https://www.iea.org/reports/world-energy-outlook-2021>
13. International Energy Agency. (2024). Reducing the cost of capital: Strategies to unlock clean energy investment in emerging and developing economies. <https://www.iea.org/>
14. Isah, A., Dioha, M. O., Debnath, R., Abraham-Dukuma, M. C., & Butu, H. M. (2023). Financing renewable energy: Policy insights from Brazil and Nigeria. *Energy, Sustainability and Society*, 13, Article 2. <https://doi.org/10.1186/s13705-022-00379-9>
15. Luthra, S., Mangla, S. K., & Kharb, R. K. (2023). Financing renewable energy projects under policy uncertainty. *Renewable Energy*, 202, 1013–1026.†
16. Mavhura, E. (2023). Blended finance for renewable energy in Africa: Opportunities and challenges. *Journal of Sustainable Finance & Investment*, 13(3), 1345–1363.†
17. Mawusi, S., Shrestha, P., Nukpezah, D., & Kemausuor, F. (2025). Clean cooking transition in Ghana: Challenges, opportunities, and strategic pathways for sustainable development. *Energy for Sustainable Development*, 87, Article 101727. <https://doi.org/10.1016/j.esd.2025.101727>
18. Murshed, M., Ahmed, Z., & Mahmood, H. (2022). Community acceptance and renewable energy deployment: Evidence from developing economies. *Renewable Energy*, 184, 1146–1159.†
19. Nuhu, P., Bukari, D., & Banye, E. Z. (2022). Driving improved cooking technology uptake in Ghana: An analysis of costs and benefits. *Energy for Sustainable Development*, 66, 26–43. <https://doi.org/10.1016/j.esd.2021.10.008>
20. O'Connor, C., & Joffe, H. (2020). Intercoder reliability in qualitative research: Debates and practical guidelines. *International Journal of Qualitative Methods*, 19, 1–13. <https://doi.org/10.1177/1609406919899220>
21. Olanrewaju, B. T., Jimoh, S., & Akinwale, Y. O. (2023). Renewable energy policies and investment performance in Nigeria. *Energy Policy*, 176, Article 113479.†
22. Priya, A. (2021). Case study methodology of qualitative research: Key attributes and navigating the conundrums in its application. *Sociological Bulletin*, 70(1), 94–110. <https://doi.org/10.1177/0038022920970318>
23. Rahman, M. M., & Alam, K. (2022). Post-COVID energy transition, public perception, and green investment. *Energy Economics*, 110, Article 106024.†
24. Scott, W. R. (2014). *Institutions and organizations: Ideas, interests, and identities* (4th ed.). SAGE.
25. Sengers, F., & van der Linden, V. (2022). Social acceptance of low-carbon energy transitions in the Global South. *Energy Research & Social Science*, 85, Article 102392.†
26. Sesan, T., Uduka, U., Baker, L., Ugwu, O., Eleri, E., & Bhattacharyya, S. (2024). Exploring the connections between mini-grid market regulation and energy access expansion: The case of Nigeria. *Energy Policy*, 184, Article 113891. <https://doi.org/10.1016/j.enpol.2023.113891>
27. Sovacool, B. K. (2021). Contestation, resistance, and justice in renewable energy transitions. *Nature Energy*, 6(10), 948–955. <https://doi.org/10.1038/s41560-021-00875-1>
28. Sovacool, B. K., Turnheim, B., Martiskainen, M., Brown, D., & Kivimaa, P. (2020). Guides or gatekeepers? Incumbent-oriented transition pathways and a transformation-first view of climate and energy governance. *Energy Research & Social Science*, 66, Article 101490. <https://doi.org/10.1016/j.erss.2020.101490>

29. Taghizadeh-Hesary, F., & Yoshino, N. (2020). Sustainable solutions for green financing and investment in renewable energy projects. *International Journal of Environmental Research and Public Health*, 17(11), Article 3948. <https://doi.org/10.3390/ijerph17113948>
30. Tambach, M., Hasselmann, K., & Breuer, L. (2021). Regulatory stability and investment in renewable energy. *Energy Policy*, 156, Article 112414.†
31. Twumasi, M. A., Jiang, Y., Addai, B., Asante, D., Liu, D., & Ding, Z. (2020). The impact of credit accessibility on rural households' clean cooking energy consumption: The case of Ghana. *Energy Reports*, 6, 974–983. <https://doi.org/10.1016/j.egy.2020.04.024>
32. World Bank. (2023). Kenya Green and Resilient Expansion of Energy Program. <https://documents1.worldbank.org/curated/en/099052623095525502/pdf/BOSIB008151b580100babb0cdc008ea0775.pdf>
33. Yang, L., Danwana, S. B., & Yassaanah, I. F. (2021). An empirical study of renewable energy technology acceptance in Ghana using an extended technology acceptance model. *Sustainability*, 13(19), Article 10791. <https://doi.org/10.3390/su131910791>