

EXPLORING OPERATIONAL PATHWAYS FOR ARTICLE 2.1(C) OF THE PARIS AGREEMENT IN AFRICA

Advancing Sustainable Finance for Clean Energy Access:
Safeguarding Rural Household Financial Assets

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This Pathway Paper, authored by Brian Makundi, Researcher; Samson Mbewe, Technical Programme Manager and Lead Researcher; Phatsimo Rahman, Researcher; and Selam Abebe, Consultant Researcher and affiliated with SouthSouthNorth (SSN), serves as a dynamic working document. It signifies its provisional nature and ongoing contribution to the swiftly evolving realm of knowledge in developing an evidence base for operationalising Article 2.1(c) of the Paris Agreement in Africa. Recognising the fluidity of the subject matter, readers are encouraged to engage and interpret its content as a proactive contribution to the rapidly expanding understanding of Article 2.1(c) in the African context. The insights contained herein are open to further investigation and refinement as the research community collectively navigates the complexities of this evolving landscape. Embracing an open and collaborative approach, this paper reflects the current state of research in the field and invites continuous dialogue and refinement.

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Intended Audience

This working paper is crafted to stimulate and enhance discourse on the topic. Constructive engagement is welcome from policymakers, researchers, and practitioners navigating the complexities of the evolving landscape of Article 2.1(c) of the Paris Agreement in Africa.

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EXECUTIVE SUMMARY

This pathway paper comprehensively engages with how operationalising Article 2.1(c) of the Paris Agreement can help African countries such as Ethiopia enhance clean energy access across the population, especially among low-income communities who experience financial challenges in accessing affordable modern and clean energy services necessary to support and sustain their livelihoods. Critically, there is a lack of safeguards to protect the financial assets the poor spend on energy access.

The paper demonstrates how efforts toward operationalising Article 2.1 (c) of the Paris Agreement can facilitate the unlocking of sustainable climate finance to achieve universal access to clean energy while safeguarding the financial assets of the poor by mitigating the relatively high expenditure on energy services for their livelihoods and clean cooking. More specifically, safeguarding the financial assets of the poor refers to implementing policies, strategies, and practices designed to protect and enhance the utility of the economic resources of low-income individuals and families, specifically by ensuring that their expenditures on energy access are sustainable, affordable, and efficient. This involves:

- **Affordability Measures:** Ensuring that the cost of modern energy services for daily livelihood and clean cooking is within the financial reach of the poor, thereby preventing economically vulnerable communities from falling into deeper poverty due to high energy expenditure.
- **Subsidies and Financial Assistance:** Providing targeted subsidies or financial assistance to reduce the burden of energy costs on the poorest households.
- **Universal Access to Affordable Clean Energy:** Promoting the availability and use of clean and energy-efficient technologies, which can reduce long-term energy costs and improve health outcomes, thus preserving the financial well-being of the poor.
- **Appropriate Regulatory and Policy Frameworks:** Implementing and enforcing regulations that protect the poor from exploitative energy pricing and ensure fair and affordable access to energy services.
- **Support for Income-Generating Activities:** Encouraging and facilitating the use of energy for productive purposes that can generate income, thereby enhancing and transforming the financial resilience of poor households.

By focusing on these areas, the goal is to create a sustainable energy ecosystem that minimises the financial strain on the poor, allowing them to allocate their limited resources more effectively and improve their overall quality of life.

The paper highlights the critical need for countries like Ethiopia to craft energy access expansion strategies in a manner that achieves alignment of financial policies with pathways consistent with low GHG emissions and climate-resilient development. The paper further demonstrates how developing appropriate energy access policy frameworks underpinned by Article 2.1(c) can facilitate the provision of safeguards to protect the financial assets low-income communities in Ethiopia spend on energy access for their livelihoods and clean cooking.

Introduction and Context

The first two sections of this pathway paper demonstrate the importance of aligning financial policies with pathways towards low GHG emissions and climate-resilient development to attract climate finance for enhancing affordable universal clean energy access while elucidating how the correct interpretation of Article 2.1(c) can facilitate this process. The paper uses the significant challenge of considerably scaling up the expansion of universal access to clean energy in Ethiopia as a case study.

The paper makes a case for the adoption of Article 2.1(c) as a climate finance policy development mechanism and guide. Article 2.1(c), which guides nations towards a sustainable and prosperous future by directing finance and investment flows towards low GHG emissions and climate-resilient development, is pivotal in unlocking and attracting sustainable climate finance for the achievement of universal clean energy access and safeguarding the financial assets of the poor in terms of expenditure on energy services. This is crucial for Ethiopia, a low-income country where only 45% of the population, i.e. 54 million people of the country's overall population of 120.3 million, have access to the national electricity grid.

Challenges

Section Three assesses the challenges surrounding the expansion of universal energy access in Ethiopia by examining existing government strategies and initiatives. In doing so, strides achieved by the national power utility companies are highlighted alongside an examination of barriers impeding faster and deeper expansion of universal energy access, especially in rural areas where access to modern and clean energy services is lacking the most. Aligning financial flows with low-emission and climate-resilient pathways is necessary to unlock and attract climate finance to expand affordable universal clean energy access.

Opportunities

Section Four illustrates how opportunities can emerge for implementing new innovative markets in clean energy financing through adopting Article 2.1c as a climate finance policy development mechanism, thereby ensuring the safeguarding of financial assets of low-income communities spent on energy services. Aligning financial flows with low-emission and climate-resilient pathways is necessary to unlock and attract climate finance, critical for expanding affordable, clean, and modern energy services. These are required to safeguard assets expended by low-income communities on energy services. Pathway Towards Unlocking Sustainable Climate Finance

The paper then proceeds in Section Five to present a detailed pathway for operationalising Article 2.1(c) and aligning financial flows with climate objectives for countries like Ethiopia requiring sustainable climate finance for the expansion of universal clean energy access at scale:

Step 1 | Raise Awareness and Enhance Financing Options

- ❖ Raise Awareness to enhance understanding of the benefits of modern clean energy services and the relevance of Article 2.1(c) among key stakeholders. This will lead to increased community engagement and support for clean energy projects, improved stakeholder collaboration, and a better-informed public that is more likely to adopt modern clean energy solutions.
- ❖ Develop Low-Cost Financing Options by creating innovative financial mechanisms that are affordable and accessible to low-income communities while protecting their financial assets. This will lead to increased uptake of clean energy technologies by low-income households, reduced financial burden on these communities, and enhanced protection of their financial resources.

Step 2 | Develop a National Strategy for Aligning Financial Flows

- ❖ Set Clear Targets that are specific and measurable for aligning financial flows with climate goals, thereby increasing clean energy access along with targets for reducing carbon emissions. This will lead to effective alignment of financial flows with national climate goals, enhanced transparency and accountability in climate finance and better coordination among stakeholders.
- ❖ Coordinate Stakeholders to ensure cohesive efforts across various sectors and levels of government, which will lead to increased efficiency and effectiveness in implementing clean energy projects, improved stakeholder engagement,

Step 6 | Increase National Ambition and Participation

- ❖ Engage in Regional and International Platforms to enhance Ethiopia's involvement in global climate finance initiatives. Learn from best practices by actively participating in international forums such as the Coalition of Finance Ministers for Climate Action, the NDC Partnership, and the Climate Action Peer Exchange. This will lead to strengthened international collaboration, improved understanding of climate finance best practices and enhanced national strategies for aligning financial flows with Article 2.1(c).

and a unified approach to achieving climate and energy goals.

Step 3 | Strengthen the Enabling Environment for Climate Finance

- ❖ Improve Legal and Regulatory Frameworks to support climate finance and attract investment by reviewing and revising national laws and regulations that impact climate finance. This will lead to improved access to climate finance, enhanced institutional efficiency and increased foreign and domestic investment in clean energy projects.
- ❖ Create Incentives and Standards by developing policies that encourage private sector investment in green projects by introducing incentives such as tax breaks or subsidies for green investments and appropriate standards. This will lead to private sector participation in clean energy projects, improved environmental and social risk management and a more attractive investment climate.
- ❖ Establish Green Bond Markets to mobilise private capital for renewable energy projects to expand the pool of financing options for clean energy projects, leading to increased capital flows into renewable energy projects and ultimately enhancing the market credibility for green investments.

Step 4 | Streamline National Energy Policies and Regulations

- ❖ Align Policies with Climate Finance to ensure that national energy policies attract both international climate finance and foreign direct investment. Revising national energy policies to align with climate finance goals will increase foreign investment in clean energy, better align national policies with international climate goals, and enhance support for clean energy expansion.

Step 5 | Promote Innovative and Inclusive Financing Mechanisms

- ❖ Explore Alternative Financing Mechanisms by researching and piloting alternative financing mechanisms such as community-based financing, carbon taxes and local carbon markets to evaluate their effectiveness and scalability for rural and low-income areas. This can create the scope for diversified financing sources, increasing funds for clean energy projects and improving financial inclusion for low-income communities.
- ❖ Community-Based Financing to empower rural communities through participatory financing mechanisms that involve local stakeholders in decision-making and project implementation. Enhanced community engagement leads to increased local ownership of clean energy projects and better protection of the financial assets of low-income households.

ABBREVIATIONS AND ACRONYMS

AFF	Aligning Financial Flows with the Paris Agreement in Africa	GoE	Government of Ethiopia
BAU	Business-as-usual	IFC	International Finance Corporation
CBDR-RC	Common but Differentiated Responsibilities and Respective Capabilities	IKI	International Climate Initiative
CO₂	Carbon Dioxide	IPCC	Intergovernmental Panel on Climate Change
CFI	Cooperative Financial Institution	IPP	Independent Power Producer
COP	Conference of the Parties	MDB	Multilateral Development Bank
CR	Climate Resilience	MFI	Microfinance Institution
CRGE	Climate Resilient Green Economy	MW	Megawatt
DFI	Development Finance Institution	NDC	Nationally Determined Contribution
DRE	Decentralised Renewable Energy	PAYG	Pay-As-You-Go
EEP	Ethiopian Electric Power	PPA	Power Purchase Agreement
EEU	Ethiopian Electricity Utility	PPP	Public-Private Partnership
ESG	Environmental, Social and Governance	RBF	Results-Based Financing
ETB	Ethiopian Birr	REA	Rural Electrification Agency
GE	Green Economy	SDG	Sustainable Development Goal
GERD	Grand Ethiopian Renaissance Dam	SME	Small and Medium Enterprise
GDP	Gross Domestic Product	UNFCCC	United Nations Framework Convention on Climate Change
GHG	Greenhouse Gas	USD	United States Dollar

1 INTRODUCTION

Insufficient access to energy remains a critical issue across Africa, particularly in Sub-Saharan Africa (SSA), where 80% of the global population does not have reliable energy access¹. This energy poverty severely hinders economic development and impacts the well-being of millions, especially in low-income and rural areas². Ethiopia epitomises these challenges with constrained financial resources³ and limited technological infrastructure⁴. As of 2021, only 45% (~54 million) of Ethiopia's 120.3 million people had access to the national grid⁵, revealing significant disparities between urban (81%) and rural areas (22%)⁶. The Ethiopian government aims to increase on-grid access to 65% and off-grid access to 35% by 2025⁷, as outlined in the Ethiopian National Electrification Plan (NEP)⁸.

Efforts to bolster Ethiopia's energy infrastructure face substantial hurdles due to inadequate access to international climate finance and private capital, including foreign direct investment⁹. Unfit policy frameworks and persistent foreign exchange issues exacerbate these challenges. The Grand Ethiopian Renaissance Dam (GERD), Africa's largest hydroelectric project, exemplifies these difficulties. Despite its potential to expand clean energy access, securing the USD 5 billion needed for GERD's construction proved daunting, prompting reliance on scarce internal resources¹⁰. Moreover, equitable distribution of generated power remains a major hurdle¹¹, underscoring the urgent need for policies aligning financial flows with sustainable energy access goals.

Low-income and rural communities bear the brunt of inadequate energy access in Ethiopia, exacerbating their vulnerability. Limited access to reliable electricity and clean cooking solutions heightens economic and health challenges for low-income communities in rural Ethiopia¹². These communities have few options but to allocate a significant portion of their limited income to inefficient and costly energy services, hindering socio-economic development. The lack of modern energy services further limits opportunities in education, healthcare, and

economic productivity, thereby perpetuating cycles of poverty and inequality¹³.

Article 2.1(c) of the Paris Agreement¹⁴ serves as a pivotal long-term goal of the Agreement, urging all parties to align financial flows with a pathway toward low greenhouse gas (GHG) emissions and climate-resilient development. Operationalising this article is crucial not only for meeting global temperature rise targets (Article 2.1(a)) and enhancing global adaptation and resilience goals (Article 2.1(b)) but also as a means for addressing Ethiopia's specific challenges. By ensuring that financial mechanisms support sustainable energy projects, Ethiopia can unlock vital resources needed for expanding clean energy access while safeguarding the economic interests of its vulnerable communities.

By operationalising Article 2.1(c), Ethiopia can unlock sustainable climate finance to drive universal access to clean energy while safeguarding the financial assets that income-poor households spend on energy services. This is crucial as the high expenditure on energy services for livelihoods and clean cooking significantly burdens low-income households. Poor households often spend a disproportionate amount of their income on energy services, which can be both inefficient and costly. Aligning financial flows with low GHG emissions and climate-resilient development pathways can facilitate the provision of affordable and sustainable energy solutions. This includes developing decentralised renewable energy (DRE) systems that provide reliable and affordable energy access to rural and underserved communities. This aligns with the broader objectives of Article 2.1(c) by promoting sustainable development and poverty eradication.

1.1 Purpose of this Pathway Paper

This pathway paper contributes to an Africa-wide perspective on aligning climate-sensitive financial flows, focusing on operationalising and implementing Article 2.1(c) in countries like Ethiopia experiencing challenges related to financing universal energy access. As a result, the paper offers a pathway for

¹IRENA. 2023. [Tracking SDG7: The Energy Progress Report](#)

²WHO. 2023. Global Energy Access Gap Persists: 675 million people without electricity, 2.3 billion people reliant on harmful cooking fuels

³Climate Policy Initiative 2022. [Landscape of Climate Finance in Ethiopia](#)

⁴Getie, E.M. 2020. [Poverty of Energy and its Impact on Living Standards in Ethiopia](#)

⁵TRAIDE Ethiopia 2022. [Investment Opportunities in the Ethiopian Energy Sector](#)

⁶World Bank. 2020. [World Development Indicators](#).

⁷Eludoyin, E. O. et al. 2021. [Energy System Development Pathways for Ethiopia](#)

⁸PRAGMA. 2022. [Review of the National Electrification Program 2.0](#)

⁹Climate Policy Initiative. 2022. [Landscape of Climate Finance in Ethiopia](#)

¹⁰Abteu, W., Dessu, S.B. 2019. [Financing the Grand Ethiopian Renaissance Dam. In: The Grand Ethiopian Renaissance Dam on the Blue Nile](#). Springer Geography.

¹¹Danish Institute for Human Rights. 2022. [Scoping Paper: Human Rights and The Energy Transition in Ethiopia](#)

¹²World Bank. 2020. The State of Access to Modern Energy Cooking Services

¹³Getie, E.M. 2020. [Poverty of Energy and Its Impacts on Living Standards in Ethiopia](#)

¹⁴UNFCCC. 2015. [Paris Agreement](#)

operationalising Article 2.1(c) of the Paris Agreement through advancing sustainable financing of modern, affordable energy services for low-income and rural communities, emphasising the importance of safeguarding the financial assets spent by poor households on energy services. The paper explores financing options for new markets in clean energy and climate-resilient infrastructure, highlighting policy interventions to protect the financial assets of low-income households pursuing access to affordable clean energy solutions.

In actualising the main aim, the paper pursues the following four objectives:

OBJECTIVES
1. Develop a comprehensive understanding of Article 2.1(c) of the Paris Agreement, focusing on mobilising a diverse range of financial flows—public, private, domestic, and international—to achieve universal access to affordable, clean, and modern energy services in low-income developing, with a specific emphasis on Ethiopia. 2. Assess Ethiopia's current energy access landscape, identify barriers and challenges to expanding energy infrastructure, and explore government policies and public-private partnerships aimed at achieving universal energy access 3. Investigate how Article 2.1(c) of the Paris Agreement can enable the development of alternative clean energy services in Ethiopia, drawing lessons from successful strategies in other developing countries. 4. Outline a practical and actionable pathway for implementing Article 2.1(c) in Ethiopia, emphasising the need for new clean energy markets and employing innovative financing methods to safeguard the financial assets of low-income communities. 5. Develop actionable recommendations for the Ethiopian government and other key stakeholders to operationalise Article 2.1(c) of the Paris Agreement.

The paper shows that effectively aligning Article 2.1(c) principles with national climate policies can broaden the scope of financing available for universal clean energy access in countries like Ethiopia. It highlights Ethiopia's renewable energy strategies and emphasises the importance of understanding the unique energy needs of rural communities and how bottom-up approaches, such as DRE systems, can unlock access to modern energy services. The paper adopts a mixed-methods research paradigm, conducting economic analyses on the challenge of insufficient sustainable financial flows for universal clean energy access in Ethiopia. This approach aims to identify and

conceptualise policy frameworks tailored to Ethiopia's socio-economic context, enhancing understanding of the policy mechanisms needed to advance sustainable development and climate action, consistent with Article 2.1(c).

2 UNDERSTANDING, OPERATIONALISING AND IMPLEMENTING ARTICLE 2.1(C) IN ETHIOPIA

This section engages with ongoing disparities and misalignment in the understanding and interpretation of Article 2.1(c) of the Paris Agreement and how this status quo can hinder policy frameworks necessary to facilitate the alignment of financial flows towards expansion and access to modern energy services in countries like Ethiopia. It draws from the seminal work of Mbewe et al. (2024)¹⁵, who unveils an innovative viewpoint on the intricacies of operationalising Article 2.1(c). Mbewe et al. posit that operationalising Article 2.1(c)'s foundational long-term objectives requires tangible climate finance policy frameworks and strategic realignment of monetary streams towards investments that are consistent with low carbon and climate resilient growth. This entails adopting comprehensive mitigation measures and promoting decarbonisation initiatives. It further entails creating fiscal instruments that span the breadth of public and private financial flow spectrums, which in Ethiopia's case would serve to unlock the much-needed financial flows for the expansion of affordable modern energy services for poor low-income communities alongside the development of new and inclusive financial market mechanisms to provide affordable and equitable access to low-income communities. Understanding Article 2.1 (c): Implication for Ethiopia

The operationalisation of Article 2.1(c) of the Paris Agreement emerges as a fundamental precondition for attaining the Agreement's long-term ambitions. However, as aforementioned, disparities exist that misalign the understanding and interpretation of Article 2.1(c) among stakeholders. This status quo impedes parties like Ethiopia from having the necessary guidance to formulate the required policy frameworks to expand affordable modern energy services that will safeguard the financial assets spent by poor and vulnerable rural communities on unhealthy and costly energy services.

¹⁵ Mbewe, S., Rahman, P., Tredoux, A. & Dobson, B. 2024. Exploring Operational Pathways for Article 2.1(c) of the Paris Agreement in Africa: A Case of High Carbon Financial Assets and Financial Sector Transformation in South Africa

Despite the ongoing lack of comprehensive understanding and alignment on the interpretation of Article 2.1(c), fully implementing Article 2.1(c) would have significant consequences for countries like Ethiopia, where much of the population lacks access to affordable, clean or modern energy sources. This prevailing scenario is largely attributed to the hurdles in unlocking and attracting public and private climate finance flows, which is critical in catalysing and revolutionising the development of affordable and accessible universal clean energy infrastructure at both pace and scale.

Mbewe et al. (2024) emphasise the importance of a nuanced interpretation of Article 2.1(c), as demonstrated by the Sharm El-Sheikh dialogues¹⁶. They argue that aligning financial flows with the objectives of the Paris Agreement is particularly critical for developing countries like Ethiopia. Implementing Article 2.1(c) is seen as fundamental to achieving the long-term goals of the Paris Agreement. The ongoing dialogue that began at Sharm El-Sheikh during COP27 and continued through COP28 and, more recently, at the 60th Sessions of the UNFCCC Subsidiary Bodies (SB 60) in Bonn represents a crucial effort to bridge understanding gaps. This dialogue is essential for aligning financial flows with pathways towards climate resilience, as well as promoting economic development and growth with reduced carbon emissions. The challenges African economies face, including Ethiopia's struggle with energy poverty among its vulnerable communities, underscore the broader implications of effectively implementing Article 2.1(c). This highlights the necessity for collaborative, informed, and adaptive approaches to ensure a sustainable transition to a low-carbon future. Such efforts are crucial for achieving equitable access to clean and affordable energy for all.

2.1 Operationalising Article 2.1(c)

Mbewe et al. (2024) offer an innovative perspective on operationalising strategic frameworks within the ambit of Article 2.1(c). They recognise the symbiotic relationship between initiatives to mitigate climate change and sustainably transitioning towards climate-resilient economic pathways. Operationalising the principles encapsulated within Article 2.1(c) must be characterised by adopting a multifaceted array of policies and strategies, each tailored to navigate the intricate matrix of challenges that define equitable access to sustainable climate finance for developing countries. Anchoring the operationalisation efforts of Article 2.1(c) in the foundational

principles of equity and the Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC) framework is critical. This nuanced recognition serves as the linchpin in customising tailored strategies that are not only responsive to but also reflective of the individualised needs and capacities, as well as the unique socio-economic and environmental context of each nation that is party to the Paris Agreement.

2.2 Distinction: Operationalising versus Implementing Article 2.1(c)

Engaging further with the seminal work of Mbewe et al. (2024)¹⁷, who posit that the distinction between operationalising and implementing Article 2.1(c), while seemingly subtle, harbours profound implications for the interpretative frameworks and methodological approaches adopted by policymakers, financial institutions, and stakeholders at the vanguard of climate action.

Operationalising, in its essence, involves the intricate process of deconstructing the overarching ambitions of Article 2.1(c) into discrete, actionable initiatives. This demarcation necessitates a meticulous architectonic process that amalgamates the formulation of strategic blueprints with allocating resources, establishing governance structures, and orchestrating stakeholder synergies. It is a process characterised by its focus on the operational aspects of activation, wherein the theoretical underpinnings of the article are transmuted into practical, executable plans of action. These plans are designed not only with the foresight of achieving specified outcomes but also with the flexibility to adapt to the evolving paradigms of climate finance and policy landscapes.

Implementing, by contrast, extends the purview beyond the mere translation of theoretical constructs into practice to encompass the full spectrum of activities associated with the realisation of Article 2.1(c)'s ambitions. It is an expansive endeavour that spans the execution of the operationalised strategies, continuously monitoring their efficacy, the iterative adaptation to feedback loops, and the sustained engagement with emergent challenges and opportunities.

For policymakers in countries such as Ethiopia, having access to appropriate methodologies to differentiate between operationalising and implementing Article 2.1(c) is crucial. This understanding aids in crafting policies that cultivate an enabling

¹⁶ UNFCCC – By decision 1/CMA.4 para 68, Parties decided to launch the Sharm el-Sheikh dialogues between Parties, relevant organizations and stakeholders to exchange views on and enhance understanding of the scope of Article 2, paragraph 1(c), of the [Paris Agreement](#) and its complementarity with Article 9 of the Paris Agreement.

¹⁷ [Mbewe, S., Rahman, P., Tredoux, A. & Dobson, B. \(2024\). Exploring Operational Pathways for Article 2.1\(c\) of the Paris Agreement in Africa: A Case of High Carbon Financial Assets and Financial Sector Transformation in South Africa.](#)

environment, unlocking both public and private, as well as domestic and international climate finance flows. This is essential for expanding affordable, universal access to clean energy services. Moreover, new market mechanisms can be established to facilitate affordable financial access for low-income rural households. This helps safeguard the financial resources that these communities invest in energy services.

2.3 Ethiopia's NDC Commitments and Article 2.1(c)

Ethiopia's commitment to climate action through its Nationally Determined Contributions (NDCs) is both ambitious and comprehensive¹⁸, reflecting a focused approach to both mitigation and adaptation strategies¹⁹. The foundation of these commitments can be found in the Climate-Resilient Green Economy Strategy (CRGE). The CRGE was launched in 2011 and underscores Ethiopia's determination to transition to a low-carbon green economy while aiming for a middle-income status by 2025²⁰.

This strategy not only aligns with global efforts to curb temperatures as stipulated in the Paris Agreement but also embodies the principles of sustainable growth and climate resilience development pathways.

Specifically, Ethiopia's NDCs set forth a target of achieving a 64% reduction in emissions by 2030 compared to a business-as-usual (BAU) scenario²¹. The scale of ambition inherent in this target is remarkable. It demonstrates Ethiopia's commitment to

not only reduce its carbon footprint but also to ensure that the expansion of GHG emissions is limited in pursuit of its green economy strategy as embodied in the CRGE. This ambitious target aligns with the Paris Agreement's goal to limit global temperature rise to well below 2 degrees Celsius, preferably 1.5 degrees Celsius, above pre-industrial levels.

Ethiopia's NDCs do not explicitly reference Article 2.1(c), although they display inherent alignment with the Paris Agreement's overarching goals. Its CRGE Strategy, which serves as the vehicle for the operationalisation of the country's NDC, broadly embodies part of the principal objective of Article 2.1(c) by integrating climate considerations into its development planning and stating the need to attract international climate finance to support implementation. However, the CRGE falls short of specifically engaging with financial flows and hence fails to recognise the paradigm shift that financial flows must be aligned with pathways for climate-resilient development and low-carbon economic growth. This is a major pre-requisite for creating the necessary policy framework environment to address the affordability of modern energy services once universal access has been expanded, a critical step essential for safeguarding the financial assets low-income rural communities spend on energy. Noting that the CRGE was crafted and adopted before the advent of the Paris Agreement and hence Article 2.1(c), the opportunity now exists to revise and update the CRGE to include the provisions of Article 2.1(c) to guide the directional flow of climate finance pathways towards low greenhouse gas emission and climate-resilient development.

3 OVERVIEW OF ETHIOPIA'S ENERGY ACCESS LANDSCAPE

Over the past decade, there has been a fourfold increase in the national power generation capacity, surging from approximately 850 MW to 4,300 MW by 2017. Despite this significant growth, the current capacity remains insufficient for a population that has increased by 16% from 94.35 million in 2014²² to an estimated 109.50 million as of 2024²³. As for 2020 only 41%²⁴ of the population had access to the national grid while less than 8%²⁵ of the population had access to clean cooking. Ethiopia's NDC targets

an increase of universal electricity access to 100% by 2030 and an increase for clean cooking access to 20% by 2030.

In comparison, South Africa, the most industrialised nation on the continent, boasts a national power generation capacity of 54,000 MW as of 2022²⁶, accommodating its population of 62 million²⁷. This stark comparison underscores Ethiopia's ongoing challenges in meeting the escalating energy demands of its large and growing population

¹⁸ WRI. 2021. [Ethiopia's Updated NDC Underscores Its Focus on Climate Action](#)

¹⁹ National Adaptation Plan Global Network. 2020. [Ethiopia's climate resilient green economy: National Adaptation Plan \(NAP\) roadmap](#).

²⁰ Federal Democratic Republic of Ethiopia. 2011. [Ethiopia's Climate Resilient Green Economy Strategy \(CRGE\)](#)

²¹ Federal Democratic Republic of Ethiopia. 2011. [Ethiopia's Climate Resilient Green Economy Strategy \(CRGE\)](#)

²² Ethiopian Statistical Service. 2014. [Projected Population 2014 - 2017](#)

²³ Ethiopian Statistical Service. 2024. [Projected Population 2024](#)

²⁴ Energising Development (EnDev) and the Modern Energy Cooking Services (MECS) Programme. 2022. [Ethiopia eCooking Market Assessment](#)

²⁵ Ibid.

²⁶ Council for Scientific and Industrial Research (CSIR) 2022. [Statistics of Utility-Scale Power Generation in South Africa](#)

²⁷ Statistics South Africa 2022. [Census 2022 Shows South Africa's Population Grew to 62 million](#)

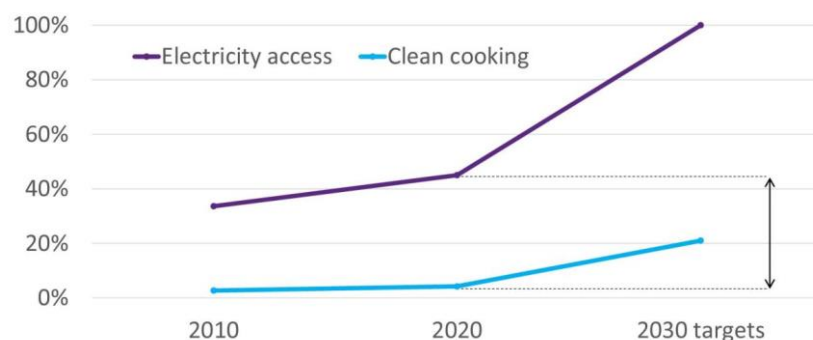


Figure 1: Clean Cooking and Electricity Access in Ethiopia - Current vs NDC targets.

Source: Adapted from EnDev. 2022. Ethiopia eCooking Market Assessment

3.1 Energy Access Barriers and Challenges

Scaling up electricity generation and expanding transmission infrastructure in Ethiopia's remote rural areas requires significant capital investments. Ethiopia's NDCs indicate that climate finance of up to USD 3.84 billion²⁸ is required annually for the energy sector between 2020 – 2030. This is significant because the energy sector accounts for close to 50% of the USD 8 billion²⁹ required annually in climate finance to meet Ethiopia's mitigation targets between 2020 – 2030. Many of these

economically disadvantaged communities currently spend considerable financial resources on costly and unhealthy energy sources for cooking and daily livelihood.

Although there has been progress in increasing national energy coverage, rural areas continue to face significant challenges. Approximately 56%³⁰ of the population residing in rural areas still lack access to electricity, comprising 64% of the 82%³¹ of the national population still relying on firewood for cooking.

Table 1: Barriers to modern, affordable energy access in rural Ethiopia

Barriers	Description
Limited Infrastructure and associated High Costs	The lack of infrastructure is a primary challenge in expanding energy access in rural Ethiopia. Remote locations often lack electricity grids, making reliable power supply difficult. Extending electricity grids to these areas is prohibitively expensive due to the high costs of setting up power generation facilities, transmission lines, and distribution networks.
Low-Income and Affordability	Many rural communities in Ethiopia have limited financial resources, making modern energy services unaffordable. The high upfront costs of installing energy infrastructure, such as solar panels or mini-grids, are beyond the reach of low-income households.
Lack of Awareness	Limited awareness about the benefits and availability of modern energy services is a significant barrier. Many rural communities are unaware of alternative energy sources, such as solar power, or government programmes and initiatives to provide energy access. This lack of knowledge hinders the adoption of modern energy solutions.

²⁸ Climate Policy Initiative. 2022. [Landscape of Climate Finance in Ethiopia](#)

²⁹ Ibid.

³⁰ Energising Development (EnDev) and the Modern Energy Cooking Services (MECS) Programme. 2022. [Ethiopia eCooking Market Assessment](#)

³¹ Ibid.

Geographical Challenges	Rural areas in Ethiopia often face geographical challenges like rugged terrain and remote locations. These factors complicate the transportation and installation of energy infrastructure, increasing costs and logistical difficulties.
Policy and Regulatory Barriers	Policies and regulations can hinder developing and deploying modern energy services in rural areas. Lack of supportive policies, unclear regulations, and bureaucratic hurdles deter private sector investment and hinder energy access expansion. An enabling policy environment is crucial for encouraging investment.
Technical Capacity	Limited technical capacity for developing and maintaining energy infrastructure at the community level is another challenge. Rural communities may lack the skills required to operate and maintain energy systems, affecting their sustainability and longevity. Capacity-building initiatives are essential to address this issue. Addressing these barriers requires a multifaceted approach involving government interventions, private sector engagement, community participation, and international support. This includes investments in infrastructure development, targeted financial mechanisms, awareness campaigns, capacity-building initiatives, and favourable policies to promote modern and affordable energy services in rural Ethiopian communities. Providing these services will enhance opportunities, protect financial assets, and improve socio-economic development.

Source: Adapted by Authors from: African Development Bank, Institute of Development Studies, RTI International

3.2 Government Policies Driving Universal Energy Access

Ethiopia's key government policies for universal energy access address the country's energy generation capacity as encapsulated in the National Electrification Plan 2.0 (NEP2.0)³². According to the NEP2.0, Ethiopia plans to achieve 65% from the grid and 35% from off-grid sources. Accomplishing these targets would enhance opportunities to facilitate the protection of the financial assets that the poor currently spend on costly and unhealthy energy sources for cooking and economic livelihoods. Four pathways are planned to significantly enhance electrification in rural areas by 2025. (see Table 2 below).

The NEP2.0 is aligned with the Climate-Resilient Green Economy (CRGE) strategy, launched in 2011, to address climate change adaptation and mitigation objectives. The strategy development followed the critical steps of estimating sectoral and national emissions of GHGs in 2010, making projections for 2030 and identifying and assessing initiatives to reduce emissions. It aims to build a resilient economic development pathway while decreasing per capita emissions by 64%. Ethiopia's contribution to global annual emissions is very low. In 2010, the country's atmospheric emission was 150 million metric tonnes of CO₂ emissions. If development continues with BAU, this will become

400 million metric tonnes of CO₂ emissions, or 3.0 tonnes/capita, in 2030.

The Government of Ethiopia's (GoE) strategy of CRGE focuses on low-carbon and sustainable economic development. It sets out priority sectors and initiatives for emissions abatement and avoidance, budgetary requirements, institutional mechanisms and a GoE action plan emphasising fast-track initiatives.

Table 2: Pathways to enhance electrification in rural areas via Ethiopian Electric Utility projects and programmes

³² Federal Democratic Republic of Ethiopia. 2019. National Electrification Plan 2.0 (NEP2.0)

Access Type	Target Beneficiaries	Description	Estimated Cumulative Achievement by 2025 (Households)
On-grid access	Households within 2.5km from the grid	Corresponding to about 65% of the population, adding 8.2 million households will result in the cumulative achievement of about 15 million grid-connected households in 2025 (including population growth).	15 million households
Off-grid access—Long-term deep rural	About 1 million households	Approximately 4% of the population is located beyond 2.5km from the existing grid in progressively remote and scattered settlements and villages that are less likely to be served in a cost- and time-effective way by grid connectivity.	1 million households
Off-grid access—Mid-term pre-electrification	Beneficiaries between 2.5–25 km from the grid	The country expects to be connected by the grid at least cost after 2025 (between 2025 and 2030), contributing to 31% of access in the country.	5 million households
Off-grid access—Short-term pre-electrification	3.3 million households	While the grid is expected to be the least cost solution by 2025, the rollout will take up to seven years to materialise. Thus, many households must wait for some time before accessing electricity services.	3.3 million households

Source: Authors own tabulation from Ethiopia's National Electrification Programme 2.0. 2019. Integrated Planning for Universal Access

3.3 Ethiopia's Energy Public-Private Partnership Framework for Universal Energy Access

Ethiopia's 2010 Energy Public-Private Partnership (PPP) Proclamation and Legal Framework aimed to accelerate the transition from traditional energy use to modern energy services and reduce the government's financial burden by guiding the procurement process of new PPP projects – including Independent Power Producers (IPPs)³³. The PPP framework opened opportunities for private investors to participate in the energy sector and has thus, to a certain extent, lowered the cost of energy access by fostering economies of scale due to the participation of several project developers and service providers. This, in turn, has seen strides made in making access to modern energy services more affordable, thereby safeguarding the assets the poor spend on energy access. It has also expanded the involvement of cooperatives and city administration in the energy sector. As such, Ethiopian authorities intend to secure most, if not all, future renewable power generation through IPPs³⁴.

The GoE has implemented various initiatives to accelerate electrification in rural areas by leveraging public and private financing for clean energy. The Ethiopia Electric Utility (EEU), the state-owned power company responsible for distributing

electricity generated from the state-owned Ethiopian Electric Power (EEP),³⁵ has implemented various programmes and initiatives, including those shown in Table 2 above. However, further research and investigation are required to determine the impact the expanded energy access has had on affordability and safeguarding of the assets of the poor.

4 IMPLEMENTING NEW INNOVATIVE MARKETS IN CLEAN ENERGY FINANCING

Addressing the barriers faced by rural communities in Ethiopia in accessing affordable and modern energy services necessitates the development of effective clean energy financing models. These models are crucial for protecting the financial assets of these communities, which currently spend substantial amounts on costly and inefficient traditional energy sources. Furthermore, aligning these financing mechanisms with Ethiopia's energy goals and international climate commitments is essential for a successful transition.

Guided by Article 2.1(c) of the Paris Agreement, which emphasises the alignment of financial flows with climate-resilient

³³ S. Ayele et al. 2024. Governance of Renewable Energy Procurement via Private Sector Suppliers: The Ethiopian Experience

³⁴ S. Ayele et al. 2024. Governance of Renewable Energy Procurement via Private Sector Suppliers: The Ethiopian Experience

³⁵ [Ethiopia Electric Power](#)

development and low-carbon growth, this section explores innovative clean energy financing mechanisms designed to meet the specific needs of low-income and rural communities in Ethiopia. It highlights key elements necessary for the successful implementation of these mechanisms and demonstrates how they align with the objectives of Article 2.1(c). Elements necessary for affordable clean energy access in low-income areas

Adopting innovative clean energy financing mechanisms to achieve the goals outlined in Article 2.1(c) is crucial, which calls for integrating financial flows with pathways toward climate-resilient and low-carbon development. These mechanisms should address the unique affordability challenges faced by impoverished communities while promoting sustainable energy access. The following table outlines key elements necessary for successful clean energy financing mechanisms and their connection to Article 2.1(c) objectives.

The successful uptake of affordable clean energy access solutions in impoverished communities necessitates re-evaluating financing mechanisms within a policy framework aligned with Article 2.1(c) principles. With their high upfront costs, interest rates, and collateral requirements,

traditional financing models are inadequate for low-income communities. Instead, innovative approaches such as Microfinance Institutions (MFIs) and Pay-as-you-go (PAYG) systems align well with the objectives of Article 2.1(c). MFIs can tailor loans to rural households based on income levels and community trust³⁶, while PAYG models offer flexible payment options that preserve financial assets and align with consumption patterns³⁷.

To address local and international financing challenges, the integration of both market-based solutions, like green bonds, and non-market solutions, such as grants, is crucial. Green bonds and grants can catalyse investment in large-scale renewable projects and support the alignment of financial flows with climate-resilient development goals³⁸. Furthermore, risk mitigation strategies, such as Investment Risk Guarantees and insurance, and Public-Private Partnerships (PPPs) are essential for attracting investment and enhancing project efficiency.³⁹

The scalability and replicability of clean energy financing models are also critical. Community-based financing mechanisms, proven effective in the Global South, can serve as models for scalable projects in diverse contexts. A stable regulatory environment and clear policy pathways, as exemplified by South Africa's REIPPPP, play a vital role in ensuring investor confidence⁴⁰.

Ultimately, the long-term success of clean energy projects hinges on technical expertise, capacity building, and meaningful community engagement. Educating and involving local communities in the benefits of renewable energy ensures sustainability and project success⁴¹.

The convergence of affordable and accessible clean energy financing mechanisms, underpinned by policy frameworks aligned with Article 2.1(c), combined with international capital, risk mitigation, scalable approaches, robust regulatory environments, and community engagement, forms a holistic framework. This approach will safeguard the financial assets of impoverished communities while supporting Ethiopia's energy and climate objectives, ensuring a sustainable and inclusive transition to clean energy.

³⁶ Barnes & Halpen. 2001. Reaching the Poor: Designing Energy Subsidies to Benefit Those That Need It

³⁷ Alstone et al. 2015. Decentralized Energy Systems For Clean Electricity Access

³⁸ Climate Bonds Initiative. 2020 [2019 Green Bond Market Summary](#)

³⁹ Osei-Kyei & Chan, 2015. [Review of studies on the Critical Success Factors for Public-Private Partnership \(PPP\) projects from 1990 to 2013](#)

⁴⁰ Baker et al. 2014. South Africa's Renewable Energy Procurement: A New Frontier?

⁴¹ Chaurey, A., & Kandpal, T.C. 2010. Assessment and Evaluation of PV Based Decentralized Rural Electrification: An Overview

Table 4: Necessary elements for examples of successful clean energy financing mechanisms

Element	Description	Connection to Article 2.1(c) Objectives
Affordability and Accessibility	Financing mechanisms must be affordable and accessible, moving beyond traditional models with high upfront costs and collateral requirements. Non-traditional models like Microfinance and Pay-as-you-go (PAYG) systems are more suitable.	Ensures that financial flows are aligned to make clean energy accessible and affordable and contribute to climate-resilient development.
Microfinance Institutions (MFIs)	MFIs play a pivotal role in enabling households to afford renewable energy technologies. They offer tailored loans to rural and poor households by considering income levels, extended payment periods, and collective community trust and responsibility instead of fixed collateral.	MFIs provide tailored loans to rural households based on income levels and extended payment periods, using community trust rather than fixed collateral.
PAYG Mechanism	PAYG models permit users to make small payments for the energy they consume, usually via mobile platforms, without needing large upfront capital. This allows poor communities to tailor payment for energy access according to their consumption patterns, spreading installation costs over longer periods.	Aligns intending to integrate innovative financial solutions to enhance energy access and resilience.
Leveraging Local and International Capital	Developing countries often lack local capital for large-scale renewable projects. International cooperation and partnerships are essential, utilising market-based solutions (e.g., green bonds) and non-market solutions (e.g., grants).	Enhances financial flows for large-scale projects, supporting climate-resilient development through diverse funding sources.
Green Bonds	Green Bonds continue to gain traction in providing a market-based solution for funding large-scale renewable projects in African countries. However, the right policy framework is required to enable the market environment required to introduce green bonds. Adoption of Article 2.1(c) can facilitate the directional guidance necessary for the formulation of the appropriate rules and regulations for new financial markets for green bonds	Aligns with Article 2.1(c) by promoting climate finance mechanisms that support sustainable and low-carbon projects.
Grants and Low-Interest Loans	Non-market solutions such as grants from international institutions and bilateral/multilateral donors play a significant role in providing non-repayable grants or low-interest loans, catalysing and leveraging funding from both public and private sectors for large-scale renewable projects.	Facilitates the alignment of financial flows with climate goals by providing essential funding for renewable energy projects.
Risk Mitigation	Mitigating economic and financial risks is essential to encourage investment in energy projects in developing regions. Investment Risk Guarantees, insurance, and Public-Private Partnerships (PPPs) are crucial in attracting domestic and foreign investment.	Supports the objective of enhancing financial stability and investment in clean energy projects, crucial for low-carbon development.
Public-Private Partnerships (PPPs)	PPPs share risks and rewards, enhancing opportunities for investment into large-scale renewable energy programs. They bring in private sector expertise, leading to increased efficiency.	Aligns intending to leverage private sector involvement and expertise to achieve climate-resilient development.
Scalability and Replicability	Clean energy financing models must be scalable and replicable across different contexts. Community-based Financing Mechanisms, demonstrated in community-led micro-hydro projects in East Africa, show the potential for scalable and replicable projects in similar settings.	Supports the objective of widespread adoption of clean energy solutions, contributing to broad-scale low-carbon growth.
Regulatory Environment and Policy Stability	A stable and predictable regulatory environment is crucial for investor confidence. Clear policy frameworks, exemplified by South Africa's REIPPPP, demonstrate the significance and efficacy of having a clear policy pathway.	Ensures that financial flows are directed towards sustainable projects by providing a stable and predictable policy environment.
Technical Expertise and Capacity Building	Developing and maintaining local capacity and expertise is paramount for sustaining the rollout and maintenance of community-based renewable projects.	Aligns with the goal of building local capacity to support sustainable energy development and resilience.
Social Considerations and Community Engagement	Local community engagement and buy-in are imperative for the long-term success of clean energy projects. Appropriate awareness campaigns that involve local communities in the decision-making process contribute to project sustainability.	Contributes to climate-resilient development by ensuring that energy projects are accepted and supported by local communities.

Sources: Adapted by Authors from various sources⁴² and augmented with authors' own conceptualisation of the connection to Article 2.1(c) Objectives.

⁴² International Energy Agency. 2023. [Financing Clean Energy In Africa](#); South African Institute of International Affairs (SAIIA) 2020. [Green Finance Mechanisms In Developing Countries: Emerging Practice](#); United Nations Development Programme (UNDP). 2024. [Financial Innovations for Clean Energy In Africa](#)

5 PATHWAYS FOR OPERATIONALISING ARTICLE 2.1(C) TO ENHANCE UNIVERSAL ENERGY ACCESS

The Paris Agreement aims to strengthen global efforts against climate change by enhancing the implementation of the Convention. This involves developed and developing countries taking decisive actions to achieve the Agreement's objectives. Central to these objectives is the provision of means of implementation, including climate finance and technology transfer, which are crucial for supporting developing nations in executing effective climate action measures.

The Agreement underscores the need for climate actions that respect national circumstances, focusing on sustainable development and poverty eradication. This principle necessitates tailoring climate strategies to the specific needs and conditions of each country, ensuring that these strategies contribute to broader development goals and poverty reduction. This section outlines a practical pathway for Ethiopia, detailing steps aligned with Article 2.1(c) to safeguard financial resources allocated by low-income communities for energy access. By following this pathway Presented in Figure 1, Ethiopia can advance its climate and development objectives, fostering a sustainable and equitable future for all its citizens

5.1 Step 1: Raise Awareness and Enhance Financing Options

5.1.1 Raise Awareness

- ❖ **Objective:** Enhance understanding of the benefits of modern clean energy services and the relevance of Article 2.1(c) of the Paris Agreement among stakeholders.
- ❖ **Actions:** Broker knowledge among stakeholders, including financial institutions and policymakers, to explain the benefits of clean energy and the provisions of Article 2.1(c). Develop educational campaigns among rural communities to demonstrate how clean energy can improve health, economic stability, and environmental sustainability.
- ❖ **Expected Outcomes:** Increased understanding of the imperative to operationalise Article 2.1(c) among policymakers and financial institutions to promote energy access. Additionally, increased engagement with rural communities and support for clean energy projects, improved stakeholder collaboration, and a better-informed public that is more likely to adopt modern energy solutions.

5.1.2 Develop Low-Cost Financing Options

- ❖ **Objective:** Create financial mechanisms that are affordable and accessible to low-income communities while protecting their financial assets.
- ❖ **Actions:** Design financing models such as Microfinance Institutions (MFIs) and Pay-as-you-go (PAYG) systems specifically tailored to the needs of impoverished communities. Ensure these models address barriers such as high upfront costs and the need for collateral.
- ❖ **Expected Outcomes:** Increased uptake of clean energy technologies by low-income households, reduced financial burden on these communities, and enhanced protection of their financial resources.

5.2 Step 2: Develop a National Strategy for Aligning Financial Flows

5.2.1 Set Clear Targets

- ❖ **Objective:** Establish specific, measurable targets for aligning financial flows with climate goals.
- ❖ **Actions:** Develop a national strategy with clear targets for reducing carbon emissions and increasing clean energy access. Identify priority sectors, such as rural electrification and renewable energy, and set indicators to track progress.
- ❖ **Expected Outcomes:** Effective alignment of financial flows with national climate goals, enhanced transparency and accountability in climate finance, and improved coordination among stakeholders.

5.2.2 Coordinate Stakeholders

- ❖ **Objective:** Ensure cohesive efforts across various sectors and levels of government.
- ❖ **Actions:** Create a coordination body or task force to unite ministries, financial institutions, businesses, and civil society organisations. Develop a framework for regular communication and collaboration.
- ❖ **Expected Outcomes:** Increased efficiency and effectiveness in implementing clean energy projects, improved stakeholder engagement, and a unified approach to achieving climate and energy goals.

5.3 Step 3: Strengthen the Enabling Environment for Climate Finance

5.3.1 Improve Legal and Regulatory Frameworks

- ❖ **Objective:** Enhance the legal and regulatory environment to support climate finance and attract investment.
- ❖ **Actions:** Review and revise national laws and regulations that impact climate finance. Strengthen institutional capacities and governance structures to support climate finance

operations. Implement policies that facilitate access to international climate finance and reduce bureaucratic hurdles.

- ✧ Expected Outcomes: Improved access to climate finance, enhanced institutional efficiency, and increased foreign and domestic investment in clean energy projects.

5.3.2 Create Incentives and Standards

- ✧ Objective: Develop policies that encourage private sector investment in green projects.
- ✧ Actions: Introduce incentives such as tax breaks or subsidies for green investments. Establish standards for green banking and environmental risk management.
- ✧ Expected Outcomes: Increased private sector participation in clean energy projects, improved environmental and social risk management, and a more attractive investment climate.

5.3.3 Establish Green Bond Markets

- ✧ Objective: Mobilise private capital for renewable energy projects through green bonds.
- ✧ Actions: Develop a green bond market by creating a regulatory framework and issuing green bonds to fund renewable energy projects. Promote green bonds to domestic and international investors.
- ✧ Expected Outcomes: Expanded pool of financing options for clean energy projects, increased capital flow into renewable energy, and enhanced market credibility for green investments.

5.4 Step 4: Streamline National Energy Policies and Regulations

5.4.1 Align Policies with Climate Finance

- ✧ Objective: Ensure that national energy policies attract both international climate finance and foreign direct investment.
- ✧ Actions: Revise national energy policies to align with climate finance goals. Address regulatory barriers and facilitate the repatriation of foreign investments and climate finance loans.
- ✧ Expected Outcomes: Increased foreign investment in clean energy, better alignment of national policies with international climate goals, and enhanced support for clean energy expansion

5.5 Step 5: Promote Innovative and Inclusive Financing Mechanisms

5.5.1 Explore Alternative Financing Sources

- ✧ Objective: Identify and implement new financing modalities for clean energy projects.
- ✧ Actions: Research and pilot alternative financing mechanisms such as community-based financing, carbon taxes, and local carbon markets. Evaluate their effectiveness and scalability for rural and low-income areas.
- ✧ Expected Outcomes: Diversified financing sources, increased funds for clean energy projects, and improved financial inclusion for low-income communities

5.5.2 Community-Based Financing

- ✧ Objective: Empower rural communities through participatory financing mechanisms.
- ✧ Actions: Develop and implement community-based financing models that involve local stakeholders in decision-making and project implementation. Provide training and support to ensure effective participation.
- ✧ Expected Outcomes: Enhanced community engagement, increased local ownership of clean energy projects, and better protection of financial assets of low-income households.

5.6 Step 6: Increase National Ambition and Participation

5.6.1 Engage in Regional and International Platforms

- ✧ Objective: Enhance Ethiopia's involvement in global climate finance initiatives and learn from best practices.
- ✧ Actions: Actively participate in regional and international forums such as the Coalition of Finance Ministers for Climate Action, the NDC Partnership, and the Climate Action Peer Exchange. Share experiences and learn from other countries' successes and challenges.
- ✧ Expected Outcomes: Strengthened international collaboration, improved understanding of climate finance best practices, and enhanced national strategies for aligning financial flows with Article 2.1(c).

By implementing these steps, Ethiopia can effectively navigate its clean energy financing challenges, align financial flows with climate goals, and ensure a sustainable transition to clean energy. This approach will not only support Ethiopia's climate objectives but also contribute to broader development goals, creating a more equitable and resilient energy future for its citizens.

PATHWAY TO OPERATIONALISE ARTICLE 2.1(C) FOR ADVANCING SUSTAINABLE FINANCE FOR CLEAN ENERGY ACCESS & SAFEGUARDING RURAL HOUSEHOLD FINANCIAL ASSETS

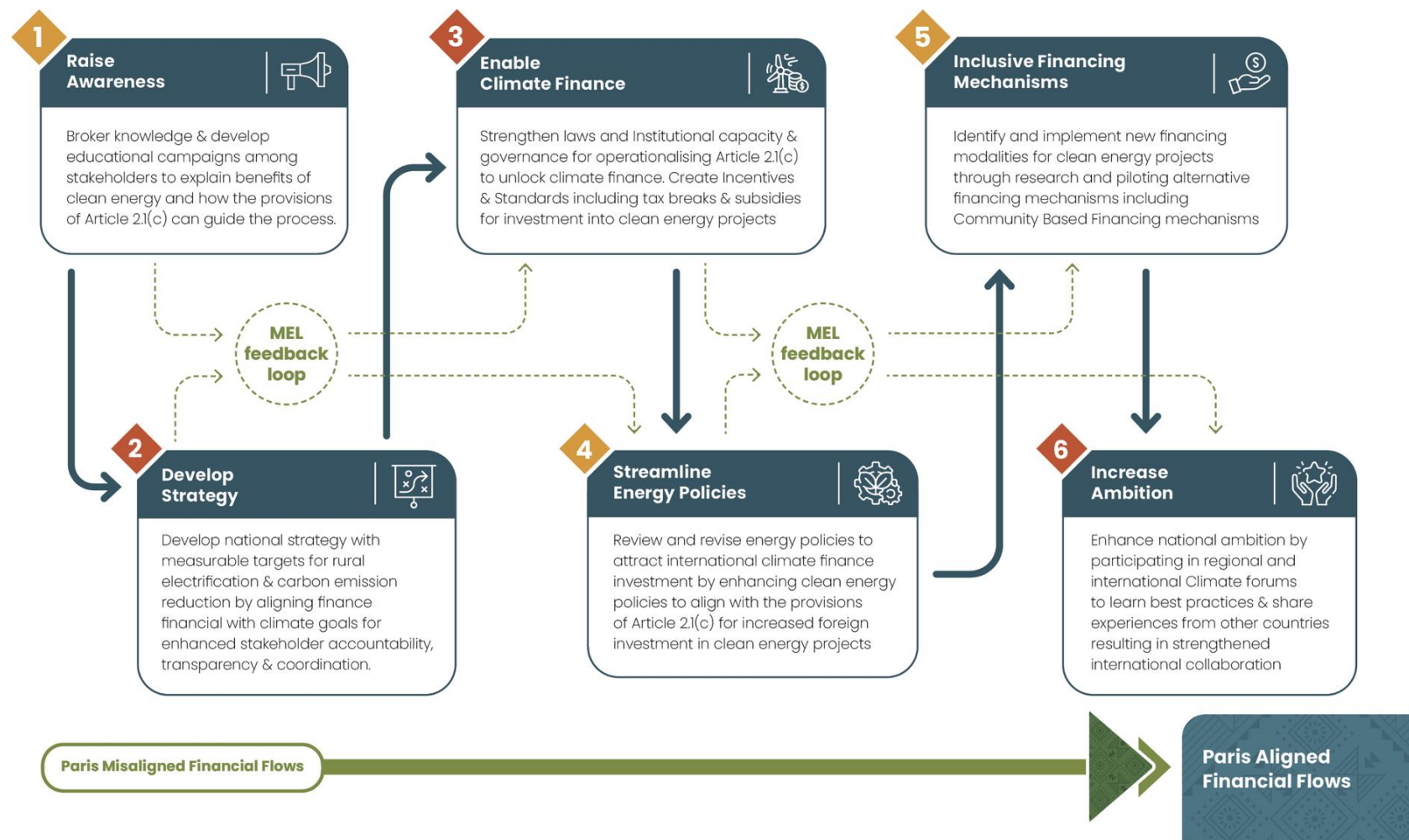


Figure 2: Pathway to operationalise Article 2.1(c) of the Paris Agreement in Ethiopia

6 RECOMMENDATIONS

To effectively operationalise Article 2.1 (c) of the Paris Agreement and address Ethiopia's clean energy access challenges, the Ethiopian government should focus on creating a conducive environment that promotes inclusive, affordable, and sustainable clean energy solutions. This involves considering local contexts and engaging a broad spectrum of stakeholders in the development and execution of policies and strategies.

Review and Strengthen Existing Energy Access Strategies

- **Climate-Resilient Green Economy (CRGE) Strategy (2011):** Continue to leverage the CRGE's framework to integrate enhanced clean energy initiatives. Ensure that renewable energy targets are ambitious and aligned with the goals of Article 2.1(c).
- **Growth and Transformation Plan II (GTP II) (2015–2020):** Evaluate and extend the GTP II's renewable energy initiatives, emphasising long-term sustainability and climate resilience. Incorporate lessons learned to refine future plans.
- **National Electrification Program (NEP) (2017):** Expand the NEP's scope to include more aggressive targets for off-grid solutions and improve accessibility for the most remote areas. Integrate advanced technologies and innovative financing solutions.
- **Public-Private Partnership (PPP) Proclamation:** Enhance the effectiveness of PPPs by setting clear guidelines for renewable energy projects and ensuring that private investments are channelled effectively into clean energy infrastructure.

Implement targeted interventions to meet the goals of Article 2.1(c)

- **Develop Comprehensive Electrification Strategies:** Design a detailed rural electrification strategy that incorporates diverse renewable sources—solar, wind, mini-hydro—and includes financial mechanisms like subsidies and incentives tailored to rural populations.
- **Strengthen Regulatory Frameworks:** Establish supportive regulations that facilitate decentralised energy systems and community-led projects. Ensure policies enable local communities to manage and benefit from renewable energy resources actively.
- **Promote Inclusive Financing Models:** Foster innovative financing mechanisms such as microfinance, impact investing, and community-based funds. Use targeted fiscal policies, information dissemination, and regulatory measures to make financing accessible to rural households.
- **Expand Technical and Capacity-Building Programmes:** Develop comprehensive training programmes for local technicians and entrepreneurs. Focus on creating local expertise and raising awareness about the benefits and maintenance of clean energy technologies.

Enhance Market Conditions for Renewable Energy Investments

- **Establish a Robust Policy Framework:** Create a clear, stable policy environment with specific renewable energy targets, streamlined permitting processes, and transparent tariff structures. This will increase investor confidence and stimulate growth in the renewable energy sector.
- **Advance Financial Instruments:** Develop and promote green financial products, including green bonds and climate-focused microfinance. Consider establishing green banks or similar institutions to support renewable energy projects.
- **Implement Risk Mitigation Tools:** Collaborate with international financial institutions to develop credit enhancement mechanisms, such as guarantees and insurance products, to mitigate investment risks and attract capital.
- **Enhance Domestic Financial Capacity:** Build the capacity of local financial institutions to evaluate and finance renewable energy projects. This includes improving financial assessment methods and integrating clean energy considerations into investment practices.

Foster Innovative and Inclusive Financing Mechanisms

- **Explore and Implement New Financing Models:** Investigate alternative finance sources like carbon taxes and local carbon markets to generate revenue for clean energy initiatives. Assess and adopt financing approaches that can be scaled effectively in rural areas.
- **Adopt Community-Based Financing Approaches:** Implement participatory financing mechanisms that engage local communities in funding and managing clean energy projects. Ensure these mechanisms protect the financial assets of low-income households and empower local stakeholders.

Elevate National Ambition and Engage Internationally

- **Increase National Ambition:** Set ambitious, long-term clean energy targets that align with Article 2.1(c) and Ethiopia's broader climate goals. Strengthen national policies and strategies to reflect this increased ambition.
- **Engage in Global Platforms:** Actively participate in international and regional climate finance initiatives, such as the Coalition of Finance Ministers for Climate Action and the NDC Partnership. Share best practices, learn from successful models, and integrate international expertise into national strategies.

By implementing these recommendations, Ethiopia can align its clean energy financing mechanisms with the principles of Article 2.1(c). This approach will support the country's climate and development goals, ensure equitable access to clean energy, and foster a sustainable, resilient energy future. Effective collaboration among public and private stakeholders, alongside ongoing efforts to address policy and market challenges, will be essential for achieving these objectives and advancing Ethiopia's clean energy transition.

7 CONCLUSION

As we advance towards a decarbonised world, the alignment of finance flows with climate goals, as outlined in Article 2.1(c) of the Paris Agreement, stands as a pivotal challenge and opportunity. This transition encompasses a broad spectrum of financial mechanisms, including climate finance, public finance, and broader financial systems. Addressing these varied scopes requires a bold, integrated approach guided by principles prioritising climate-consistent policies and minimising harm.

For Ethiopia, operationalising Article 2.1(c) presents a critical opportunity to leverage climate finance to achieve universal access to clean energy while protecting the financial assets of its low-income population. By aligning finance flows with climate goals, Ethiopia can overcome significant barriers to energy access, especially for its poorest communities, who face high energy costs that strain their financial resources.

Given Ethiopia's status as a low-income country with limited climate finance resources, expanding beyond traditional public funding is essential. Incorporating private domestic and foreign direct investments will be crucial for scaling up clean energy access. Governments alone cannot meet the financing needs required for universal energy access, especially given the vast geographic and demographic diversity in Ethiopia's energy needs.

Enhancing market conditions for off-grid and mini-grid solutions can attract private investment and diversify financing sources. Microfinance, energy cooperatives, and local government initiatives can complement public investments, while concessional financing from development partners can alleviate

the financial burden on low-income communities. Facilitating direct access to finance for local and community-level projects is also vital.

However, integrating private sector financing into the energy sector requires comprehensive systemic reforms. Article 2.1(c) can guide these reforms, addressing affordability constraints and encouraging private sector participation in providing affordable, clean energy solutions. Policies should aim to uplift the private sector, improve capital availability, and resolve regulatory and technical challenges.

International support must be balanced, ensuring that finance is not only directed at countries transitioning from emission-intensive sectors but also supports those with cleaner energy grids facing significant access and affordability challenges. Ethiopia, with its predominantly renewable energy mix, exemplifies this need. Despite its clean energy progress, Ethiopia struggles with significant energy access gaps and financial constraints. Ensuring that transition finance addresses these challenges is crucial to avoid penalising countries like Ethiopia that have made strides towards cleaner energy but still require substantial support.

In summary, aligning finance flows with the principles of Article 2.1(c) provides a pathway for Ethiopia to advance its clean energy goals, promote equitable access, and enhance climate resilience. By fostering a supportive financial environment and leveraging diverse funding sources, Ethiopia can achieve its energy and climate objectives while safeguarding the financial well-being of its most vulnerable populations.

DISCLAIMER

This paper, titled "Exploring Operational Pathways for Article 2.1(c) of the Paris Agreement in Africa: Enhancing Clean Energy Access in Ethiopia," is a product of the Aligning Financial Flows with the Paris Agreement in Africa (AFF) project, implemented by SouthSouthNorth (SSN). The project receives funding from the International Climate Initiative (IKI) of the Federal Ministry for Economic Affairs and Climate Action of Germany (BMWK). The views expressed and information contained in this document do not necessarily reflect those of IKI or BMWK, nor of the entities managing the AFF project. These parties disclaim any responsibility or liability for the views expressed, the completeness or accuracy of the information, or any reliance placed on them.

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