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Who has power over policy? The political economy of Kenya's 2019 gender policy in energy access

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ABSTRACT

Addressing gendered energy poverty requires policies that ensure equal consideration for women and men. In order to close the gender gap in energy access, the Kenyan Ministry of Energy developed its 2019 Gender Policy. Unlike similar policies – such as ECOWAS's Policy for Gender Mainstreaming in Energy Access – Kenya's Gender Policy emerged from strong leadership by the Ministry of Energy, put clean cooking up front, and established an action plan to operationalize the Constitution's gender quota. To understand how these policy features appeared in the Kenyan context, this paper explores how the dynamics between actors working at the gender and energy nexus have impacted the development of the Gender Policy using the Actors, Objectives and Context political economy framework. We find that four major objectives drive the key actors: electricity access, economic opportunity, access to clean cooking technologies, and gender equality. Examining how these objectives are realized in the Policy, we find a convergence of top-down government efforts to uphold constitutional rights to gender equality and bottom-up advocacy from civil society to prioritize clean cooking and women's access to energy services.

1. Introduction

Two critical Sustainable Development Goals—access to energy (SDG 7) and gender equality (SDG 5)—emphasize the need for equitable energy access and gender empowerment [1]. Energy poverty is gendered, marked by distinct roles for women and men in energy production, distribution, and utilization [6]. The scholarly literature usually focuses on the impacts of traditional cooking technologies on women. In particular, women and girls are more likely to spend time collecting fuelwood and cooking, which deprives them of opportunities for educational or productive pursuits, creates adverse health effects stemming from exposure to respiratory diseases due to indoor air pollution, and safety concerns encountered during the gathering of

fuelwood [6–11]. Rural women and girls, who rely heavily on biomass fuels like wood and charcoal, are most affected [12]. Access to electricity also comes with its own set of gendered considerations, such as which industries get electrified first and what types of domestic electrical appliances get adopted, but these are less studied [13–16].

In response, mainstreaming gender considerations in energy policy has emerged as a strategic priority in countries like Kenya. Policy formulation responded to identified gender disparities in energy access, aiming to address these inequalities while unlocking women's economic potential. For instance, improved electricity access enables women to pursue income-generating activities and reduce the burdens of domestic labor [17]. Consequently, women may have more time to engage in rest, leisure, care work, or productive activities, while girls may have

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increased opportunities to attend school and study [18–21]. Cleaner cooking technologies can also significantly reduce health risks from indoor air pollution, benefitting women and girls in particular [22]. Thus, these interventions can unlock synergies between the SDGs and promote gender equality within energy transitions.

Gender mainstreaming also opens opportunities for men, and several studies have found that men's support for mainstreaming increases when they are made aware of changes that positively impact them. For example, establishing clear work hours, allowing staff greater work flexibility, or expanding maternity leave policies to include paternity leave [23,24].

In 2019, Kenya's government launched the National Gender Policy for the Ministry of Energy with the aim of committing to five policy goals:

- 1) *To strengthen institutional frameworks for gender equality*
- 2) *To ensure compliance with the Constitution on gender*
- 3) *To increase awareness on gender in the energy sector*
- 4) *To integrate gender in programs, monitoring & evaluation*
- 5) *To promote clean cooking solutions and environmental sustainability*

The formulation of this policy stemmed from an initial gender audit of the Ministry of Energy, utilizing tools to identify relevant objectives, allocate budget resources, and involve key stakeholders in the policy document's formulation, contributing to its overall effectiveness [25]. The Gender Policy exhibits a number of features that make it distinct from similar policies, such as ECOWAS's² regional Policy for Gender Mainstreaming in Energy Access. Firstly, it was developed by the Ministry of Energy without outsourcing to external consultants [26]. Secondly, it focuses more narrowly on creating the enabling environment to meet Kenya's two-thirds gender rule codified in the Constitution, which states that "not more than two-thirds of the members of electoral or appointive bodies shall be of the same gender" [27]. This is a rule that the government enacted and has struggled to enforce since its establishment in 2010 [28]. This paper leverages the unique aspects of the 2019 Gender Policy in Energy to address the following questions:

- 1) How has the Gender Policy been shaped by national economic and political structures, actors, development priorities, and social norms?
- 2) How have these factors influenced the implementation of the Gender Policy, and what are the implications for similar policies elsewhere?

To understand which actors have had the greatest influence over the development of the Policy, this paper utilizes Jakob et al.'s (2020) Actors, Objectives and Context (AOC) Framework to explore how actor's objectives are reflected in the unique features of the final policy document. Utilizing semi-structured interviews, the paper seeks input from relevant stakeholders representing the government, academia, private institutions, and NGOs to understand their key objectives, how they conceptualize gender as relating to these objectives, and their perspectives on the Gender Policy. In so doing, this paper attempts to address a research gap by identifying how differing narratives and concepts of gender equality interact with the political-economic dynamics of policy design [29].

Notably, ENERGIA³ and Practical Action have been instrumental in raising awareness and promoting gender mainstreaming within Kenya's

energy sector. The Ministry of Energy (MoE)⁴ has actively pursued decentralization efforts and provided extensive training at the sub-national level to ensure the widespread adoption of gender-sensitive policies. The increasing role of women's organizations, political parties, and women's ministries in energy politics warrants careful study [30]. Despite the challenges in implementing the two-thirds gender rule, there has been no overt opposition to the law itself. However, the law has faced limited adoption and lacks legal enforcement [31,32].

Kenya's rich history of policy development in gender mainstreaming has positioned it as a regional leader and a pioneer, making it valuable for comparison with ECOWAS initiatives. Kenya's strategy includes a robust emphasis on clean cooking solutions, a focus that ECOWAS policies have yet to incorporate fully. We find that four major objectives drive the key actors in Kenya: electricity access, economic development, access to clean cooking technologies, and gender equality. Examining how these objectives are realized in the Policy, we find a convergence of top-down government efforts to uphold constitutional rights to gender equality and bottom-up advocacy from civil society to prioritize clean cooking and women's access to energy services.

The rest of the paper is organized as follows. Section 2 provides background on Kenya's energy sector and describes how the Gender Policy was developed. Section 3 describes our data and analytical approach using the AOC framework. Section 4 dives into the major objectives of the actors, how those objectives relate to gender and what the expression of those objectives in the Gender Policy can tell us about the power dynamics in Kenya's energy sector. Finally, Section 5 discusses the implications of these findings and what they mean for the implementation of the Gender Policy.

2. Background on Kenya's energy sector

2.1. Overview of Kenya's energy sector

Kenya's energy sector has witnessed significant growth over the past two decades, with a notable focus on renewable and clean energy sources [33]. Currently, about 90 % of Kenya's electricity is generated from renewable energy, harnessing the country's abundant renewable energy resources [34]. Furthermore, Kenya has established itself as one of the world's lowest-cost developers of geothermal power. Kenya has made remarkable progress in access to electricity, more than doubling electricity access from 40.1 % of households in 2013 to 76.2 % in 2023 [2]. According to the World Development Indicators, the access rate in urban areas is 96 %, while in rural areas, it has reached 68 % [2]. Still – these numbers fall short of Kenya's National Electrification Strategy, which aimed to achieve universal access to electricity with an acceptable quality of service by 2022. As of 2021, Kenya's installed electricity capacity stood at 2990 MW, a significant increase from 1800 MW in 2014 [35]. However, it is considered relatively low for a country with a population of over 50 million.

To address this gap, the Kenyan government is actively pursuing efforts to increase power demand and supply while reducing the cost of electricity. This involves incorporating cheaper renewable energy sources, such as geothermal, wind, solar, while transitioning away from more expensive heavy-fuel oil power plants. The goal is to achieve a generation capacity of 5000 MW by 2030, primarily from geothermal, natural gas imports, wind, and solar [35]. Additionally, Kenya has long-term plans for the development of nuclear power [36]. Challenges in the sector include approximately 16 % system loss of generated power due to aging transmission and distribution networks. To address this, the Kenya Electricity Transmission Company (KETRACO) is constructing new power lines and expanding the transmission network [37],

² The Economic Community of West African States

³ Since 2016, ENERGIA has been hosted and managed by the international development organization, Hivos. ENERGIA is the international network on gender and sustainable energy. Retrieved June 14, 2025, from <https://energia.org/>

⁴ While the names of certain government ministries and departments have changed since 2022, this study refers to the names of these entities as they were at the time of the interview collection.

including interconnections with Ethiopia, Uganda, and Tanzania. Kenya Power (KP) is the sole distribution company in Kenya, and it operates an interconnected grid. With the assistance of the Rural Electrification and Renewable Energy Corporation (REREC), KP has significantly improved access to electricity, particularly in rural areas.

The country also seeks to strengthen and enhance the flexibility of the grid by reducing losses, incorporating smart technologies, and increasing off-grid renewable energy access. Geothermal power is expected to continue growing as investments are made to reduce dependence on costly heavy-fuel oil plants and decrease reliance on hydroelectricity, which is vulnerable to drought periods [38]. Key public sector institutions involved in managing and regulating Kenya's electricity sector include the Ministry of Energy and Petroleum, the Energy and Petroleum Regulatory Authority (EPRA), Kenya Power (KP), Kenya Electricity Generation Company (KenGen), the Geothermal Development Company, the Kenya Electricity Transmission Company (KETRACO), and the Rural Electrification and Renewable Energy Corporation [39]. Overall, Kenya's energy sector has made substantial progress in expanding access to electricity and promoting the use of renewable energy sources. However, challenges remain in terms of infrastructure development, transmission losses, and ensuring equitable access for women and marginalized groups across all regions.

Furthermore, access to clean cooking technologies remains low. In 2019, when the Policy was launched, only 21 % of the population had access to clean technologies for cooking [40]. As of 2022, that figure reached 30 % [40]. The Ministry of Energy and Petroleum has pledged to reach universal clean cooking access by 2028 [41]. Challenges in reaching that goal include the affordability of new technologies, low awareness of the health problems associated with polluting fuels, and cultural resistance [41]. There have also been unpredictable fiscal policies, as in the wake of the COVID-19 pandemic, the National Treasury removed the VAT exemption on improved cookstoves (ICS) and liquified petroleum gas (LPG) [42]. Subsequently, facing civil society and private sector backlash, the VAT exemption was reinstated for ICS and halved for LPG [43].

2.2. The history of gender mainstreaming in Kenya

Kenya has a multi-decade history linking gender mainstreaming with development policy, with roots tracing from the 1995 UN Conference on Women held in Beijing, which outlined gender mainstreaming principles. With the recognition that a comprehensive and coordinated approach to enact these principles would need to be established, the Kenyan government passed the National Policy for Gender and Development in 2000, which aimed to provide "an avenue for gender mainstreaming across all sectors in order to generate efficient and equitable outcomes" [44]. The Policy affirms the rights of "women, men, girls, and boys to participate in and benefit equally from the development process" [45]. The Gender Policy was revised in 2011—following the ratification of the country's new Constitution in 2010—and finally updated a third time in 2019.

In line with the Beijing Platform principles for gender mainstreaming, the Kenyan government introduced the two-thirds gender rule in the new 2010 Constitution, described above. The 2010 Constitution was built on principles of inclusivity of women, men, youth, and persons with disabilities. Still, the inclusion of the two-thirds gender rule was a highly contested process, with civil society groups lobbying for affirmative action meeting resistance from incumbent and majority male politicians who preferred the status quo. From this process emerged the two-thirds gender rule in Article 27(8) of the Constitution, though lacking a legal mechanism for enforcement [32,46].

The new Constitution also saw the establishment of the Ministry of Public Service, Youth, and Gender Affairs, charged with managing and developing human resource capacities within public service and preventing discrimination in career development by race, ethnicity, age, or gender. Housed under this ministry was the State Department for Gender

Affairs, which manages gender mainstreaming of policies and programs across government. In addition to the two-thirds rule, the 2010 Constitution also includes the Access to Government Procurement Opportunities (AGPO) provision, which requires all public entities to allocate at least 30 % of their total procurement budget to firms owned by women, youth, and disabled people [27].

The government's efforts to mainstream gender in energy reflect a broader trend of growing involvement of women's organizations, political parties, and women's affairs ministries in energy policy debates [30]. In Kenya, early efforts to mainstream gender in the energy sector were led by international civil society organizations like ENERGIA, Practical Action, and USAID's Power Africa. In 2006, ENERGIA, the East African Energy Technology Development Network, Practical Action, and the University of Nairobi conducted a gender audit with the Kenyan Ministry of Energy to identify gender gaps in energy policies and programs. ENERGIA is widely attributed with leading cross-country efforts to mainstream gender in energy projects, and setting guidelines and best practices [47]. While recommendations from the audit were not directly or immediately adopted by the Ministry, a Gender Focal Point was appointed, and civil society efforts to mainstream gender in energy projects sensitized key decision-makers in the leadup to the 2019 Gender Policy [25,48].

2.3. Development of the 2019 Gender Policy

Kenya's Ministry of Energy derives its mandate from the Constitution, article 186, which entrusts the ministry to ensure the development of energy policies and management of energy-related issues [26]. The ministry, therefore, manages and regulates thermal power, hydropower, and renewable energy to ensure security and conservation. The Government of Kenya (GoK) also established targets to achieve universal access to electricity and clean cooking energy for all its citizens by 2030 and 2028, respectively.

Leveraging the expertise from the State Department for Gender Affairs, ENERGIA, and Practical Action, the Kenyan Ministry of Energy (MoE) developed the Gender Policy in 2019. The Policy drew inspiration from other countries that had developed similar policy documents and from previous gender audits.

Gaps identified from the audit of the Ministry of Energy [26] included:

- Inadequate gender-responsive institutional frameworks
- Gender-neutral energy policies, plans, and budgets at the National and County Government levels.
- Inadequate gender-responsive programs and projects.
- Inadequate gender-sensitive monitoring and evaluation.
- Inadequate gender-disaggregated data management systems at National and County Government levels.
- Inadequate access to sustainable energy resources
- Gender inequality in energy labor markets in exploration, generation, transmission, and distribution/retail of various energy types
- Underrepresentation in energy-related technical education at the tertiary level and universities, with disproportionately higher male enrollments than females

Several strategies and draft documents were proposed by the audit team led by the MoE to bridge the identified gaps. Subsequently, these drafts were shared with key stakeholders through a policy dialogue. The policy dialogue engaged relevant stakeholders, including state agencies, civil society, non-governmental organizations, academia, and other players in the energy sector. Their input and contributions were solicited in finalizing the documents. Kenya's 2019 Gender Policy in Energy serves as a framework for incorporating gender considerations into energy policies, programs, and projects. The Policy commits to the following actions:

- Strengthening institutional frameworks: Efforts are made to enhance the participation of women in the energy sector by establishing stronger institutional frameworks for their employment and engagement.
- Ensuring compliance with the Constitution of Kenya: The Policy emphasizes aligning energy policies, plans, budgets, strategies, and programs with the gender provisions outlined in the Constitution of Kenya. This ensures that gender perspectives are integrated into all aspects of the energy sector.
- Increasing awareness: The Policy aims to raise awareness of gender-related issues within the energy sector. This includes promoting understanding and knowledge about gender disparities, challenges, and opportunities in the sector.
- Integrating gender in programs and monitoring: Gender considerations are integrated into energy programs, ensuring that they are designed and implemented in a way that addresses gender imbalances and promotes inclusivity. Monitoring and evaluation mechanisms are also established to assess the impact of these programs on gender equality and make necessary adjustments.
- Promoting clean cooking solutions and environmental sustainability: The Policy emphasizes the promotion of clean cooking solutions and environmental sustainability. This not only addresses energy access but also recognizes the gender dimensions of energy usage, particularly in relation to women’s roles in cooking and the associated health and environmental impacts.

Through these measures, the Policy seeks to address gender imbalances and ensure equitable access, participation, and benefits for both men and women in the energy sector. This approach aims to enhance inclusivity in the energy sector and guarantee equal access to energy services.

3. Methodology

3.1. Actors, Objectives, Context (AOC) framework

In order to understand which political economy factors contributed to the development of Kenya’s Gender Policy, we use the Actors,

Objectives, Context framework developed by Jakob et al. [49]. This framework helps situate the interplay of social and political actors’ objectives within the context of policy decisions. The AOC Framework explains how policy choices are influenced by social and political entities’ goals, their circumstances, and previous policies [49,50]. It suggests that individuals’ societal goals are influenced by their circumstances, which in turn affect political actors’ goals. This framework helps examine how policy decisions reflect the political economy of policy actors, as seen in national energy policies [50]. Fig. 1 outlines the framework.

3.2. Study setting

The Gender Policy was developed following an internal gender audit conducted by the Ministry of Energy’s gender focal unit, spearheaded by the deputy director (KENYA01). The Policy’s objectives were shaped by identifying several gaps and consulting with key actors to achieve the final goal of gender mainstreaming in energy access [26]. The Ministry of Energy’s gender focal unit serves as the hub for aggregating inputs, opting not to involve external consultants. Through their gender audit, they engaged stakeholders, sharing suggestions to shape and craft the Policy and draft the Policy internally. In the audit, the Ministry claims to have offered benefits, utilized personal insights, involved grassroots perspectives, and considered social and political dynamics associated with policy formation [26].

To operationalize this analytical framework and address the research questions outlined in the introduction, we conducted elite and expert interviews alongside a thorough review of policy documents, peer-reviewed literature, and grey literature. Through these materials, including organizational strategy documents and websites, we discerned actor objectives. By clustering these objectives, our goal was to pinpoint the primary objectives of the actors engaged in policy formulation. We subsequently analyzed the alignment of these objectives with the final set of activities outlined in Gender Policy, aiming to identify the actors with the most significant influence over policy formulation.

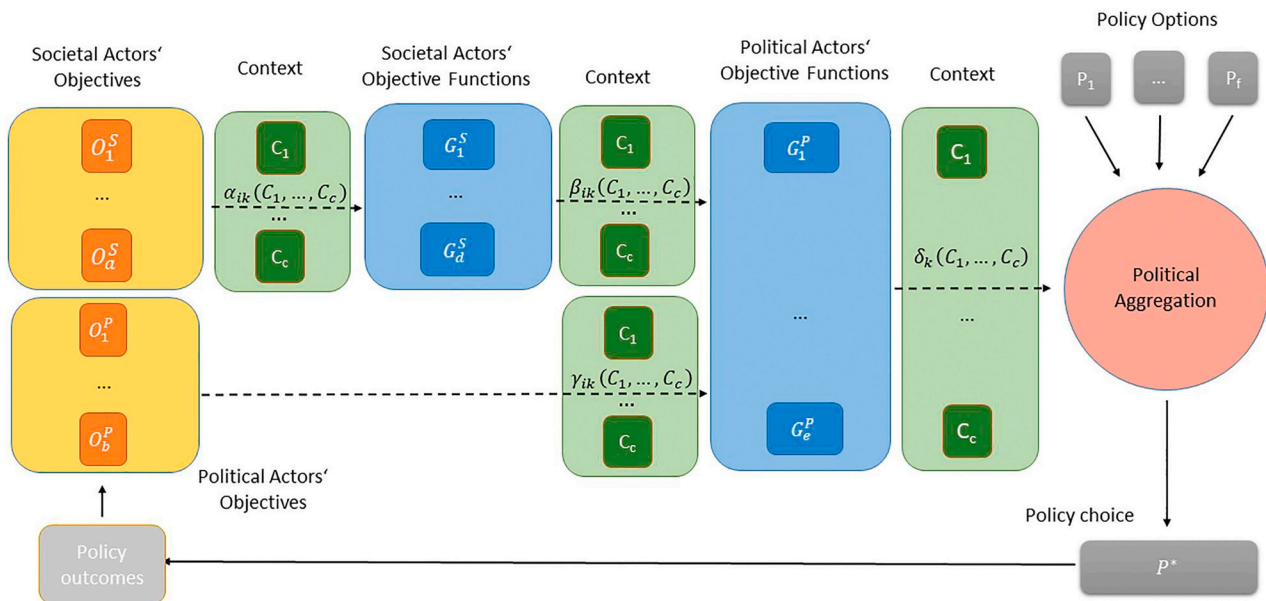


Fig. 1. Actors, Objectives, Context Framework from Jakob et al. (2020).

$O_1^S \dots O_a^S$ represents social actors’ objectives, $O_1^P \dots O_b^P$ represents political actors’ objectives, $C_1 \dots C_c$ represents contextual factors, α_{ik} represents the importance of objective k for societal actor i , β_{ik} represents the influence of societal actor i on political actor k , γ_{ik} represents the weight of political objectives for political actors, δ_k represents the power of political actor k , and $P_1 \dots P_f$ represent policy packages.

3.3. Procedure and participants

The research commenced in Spring 2020 during the height of the COVID-19 pandemic, and as a result, interviews were conducted virtually from May 2021 to October 2022 by one to three members of the research team. Interview participants were contacted via email, focusing on those organizations cited in the Gender Policy and supplemented with other experts working in Kenya's gender and energy sectors. Interview snowballing was also employed to identify and recruit additional participants. Interviews typically lasted between 30 and 60 minutes. In total, 14 individuals were contacted, and 12 interviews were conducted with 12 stakeholders from various sectors, including government, private sector, academia, non-governmental organizations, and international development organizations (refer to Table 1). Interview saturation was determined given the finite number of actors involved in policy consultation and by code meaning, by which new codes and themes were counted in each subsequent interview until no new codes or themes were identified [51].

The interviews included questions related to organizational objectives and priorities, Gender Policy development, policy implementation, and Kenya's energy access and gender equality context. Interviewees were also asked about the role of civil society actors, political parties, and various industries and economic sectors in policy discussions. The full set of questions is available in Appendix I. Since interviews were semi-structured, not all questions were asked of each interviewee, and supplemental questions were sometimes asked to clarify responses or draw out additional information. Interviews are referenced in the following section according to the order in which they were conducted (e.g., KENYA01...KENYA12).

3.4. Data analysis

Data analysis involved recording and transcribing all interviews, followed by manual coding in Dedoose software. Interviews were transcribed via Zoom's automatic transcription feature and transcriptions were reviewed and corrected manually. Coding of interview transcriptions was done separately by two members of the research team and codes and main themes were compared and harmonized. Key statements related to actors, objectives, and contextual information were coded within each interview and clustered into four high-level strategic objectives. The analysis is structured around these objectives, examining actor perceptions of their relationship to gender objectives and how

Table 1
Kenya stakeholder interview list.

Number	Institution	Actor type
KENYA01	Ministry of Energy	Government
KENYA02	The State Department for Gender Affairs (under the Ministry of Public Service, Youth, and Gender Affairs)	Government
KENYA03	Practical Action	Civil Society (International)
KENYA04	Hivos East Africa	Civil Society (International)
KENYA05	Clean Cooking Alliance	Civil Society (International)
KENYA06	Ministry of Energy	Government
KENYA07	University of Nairobi	Academia
KENYA08	The Clean Cooking Association of Kenya	Civil Society (Domestic)
KENYA09	Geothermal Development Company	State-owned Company
KENYA10	Geothermal Development Company	State-owned Company
KENYA11	Kenya Electricity Transmission Company Limited (KETRACO)	State-owned Company
KENYA12	Kenya Electricity Transmission Company Limited (KETRACO)	State-owned Company

these are reflected in the validated Gender Policy. The implications for policy implementation are discussed, with references to individual interviews and validation through secondary literature where possible.

3.5. Positionality and reflexivity

These interviews were conducted by a team of researchers, which may impact the perception that the interviewees had of the interview as well as impact what information they chose to share and how. The primary interviewer was a male Ghanaian PhD student who had previously conducted studies in Kenya. This placed him in an interesting position as both in-group (as an African researcher) and out-group (as not from Kenya). As we interviewed a split of men and women in these interviews, his male identity may have encouraged male interviewees to be more open with him and had the potential to make female interviewees defensive, as he asked questions about the role of gender mainstreaming. Neither of these stances were obvious from the interviews, but it is worth bearing in mind.

Other researchers in the interviews included two white researchers from the United States, one male and one female. The team of researchers also includes two additional PhD students from Ghana, one male and one female, and one female PhD student from Togo. The mixed nature of the team in terms of gender, race and country of origin hopefully opened opportunities for exploring different interpretations of the interviews, as well as providing a degree of comfort for the interviewees that they were being interviewed by an interviewer with some in-group markers (whether gender or race) that might encourage openness in their responses.

4. Results and discussion

From our interview data and document analysis, four primary objectives emerged: electricity access, economic development, clean cooking access, and gender equality. In exploring who holds these objectives and how they relate to the Ministry of Energy's Gender Policy, we can see the strong influence of civil society in the clear policy focus on clean cooking within a powerful government framework of equal access to economic opportunities, including the Constitution's two-thirds rule and the Access to Government Procurement Opportunities provision.

4.1. Electricity access

Electricity access is a core objective of political actors like the Ministry of Energy and social actors working at the intersection of energy and development (e.g., KETRACO, Practical Action, Hivos). The Gender Policy describes access to electricity via renewables as an enabler of climate mitigation and positive development outcomes, using an energy services framing that is promoted by international civil society organizations like Hivos and Practical Action (KENYA03, KENYA04) [26]. This suggests that, while the MoE obviously had a strong influence over its own policy design, it was also impacted by international social actors advocating for gender mainstreaming in the sector.

Specifically, expanding low-carbon electricity access is a key objective of political actors in government, like the Ministry of Energy, KETRACO, and State Department for Gender Affairs (KENYA01, KENYA02, KENYA12). It is also an important objective for social actors at the international level like Hivos and the East African Energy Technology Development Network. These actors acknowledge the government's (and parastate companies like KETRACO's) mandate to electrify rural areas via grid and off-grid connections and supply reliable and low-cost electricity to all citizens, which is an important pillar of Kenya's multi-decade development agenda, The Vision 2030 (KENYA04). The Gender Policy reflects the government's focus on renewables, emphasizing the role of low-carbon technologies in achieving electricity access, underscoring the government's commitment to environmental

sustainability and achieving Kenya's Nationally Determined Contributions.

Beyond renewables, state actors also used energy services language, which has been historically promoted by civil society. For instance, the State Department of Gender emphasizes the importance of electricity for lighting, which can improve safety by mitigating theft and gender-based violence:

Lighting has been a problem in rural areas and urban settlements, and women have been the biggest victims where darkness makes them vulnerable to people who rape them, people who mark them, and people who steal from them. (KENYA02)

Practical Action and Hivos have historically framed their interventions around energy services, especially as both organizations promote adoption of off-grid technologies. Hivos also promotes the use of electricity for business development, as they aim to “contribute to energy access for all by scaling up the delivery of energy services through women-led micro and small businesses” [52]. This language is then used in the Policy, describing how electricity access will enable cross-cutting development outcomes, including health, safety, education, time savings, and productive use for men and women (see next section).

Gender sensitive language is also inscribed in other key national developmental policies such as Kenya's Big Four agenda and Kenya Vision 2030.⁵ For instance, the MoE's 2015 action agenda for the Kenya Vision 2030 states “Energy interventions are likely to impact women and men differently. For example, access to affordable modern energy services can reduce both time and effort spent in reproductive and productive labour” [53]. The Ministry's investment prospectus in the following year expanded on this, stating “Increased access to affordable, clean energy services is envisaged to change the lives of women and girls and help to generate local income through productive activities” [54]. These policies, and the mandate they gave to the Ministry of Energy, gave rise to the Gender Policy, as described by the Ministry:

When you read those key development action plans, you realize the key areas that touch on mainstreaming, and [...] that's how we came up with the Policy, so that we bring up specific issues that need to be mainstreamed, so that we promote access and inclusivity to energy by all Kenyans affected by the latest 2030. (KENYA01)

The Gender Policy thereby acknowledges the differentiated energy needs of men and women, aligning with the goals of international social actors and academic research on gendered energy use. For example, academic research by Winther et al. found that gender neutrality in energy interventions reproduced gender inequalities (via prioritization of men's energy needs) in rural electrification projects in Kenya [55]. With respect to differentiated energy needs, Practical Action referred to their engagement with the Gender Policy accordingly: “we were just sending this to them as a best practice that would enable them to plan in a way that everybody, men and women, would access energy that they need to meet different needs” (KENYA03). The Policy explicitly acknowledges that energy projects should avoid gender neutral language, stating “A gender-neutral project assumes that women and men have the same needs, priorities, opportunities and expectations. Such approaches reinforce existing gender-based discrimination” [26].

Electricity access is a primary goal for political actors in the Kenyan government and social actors in the development sector. The Gender Policy prioritizes addressing gendered disparities in energy access, largely due to the gender-targeted energy services approach of development organizations like Hivos and Practical Action, which have previously and repeatedly criticized gender-neutral energy policies in past

gender audits. As stated by the Ministry of Energy:

We brought everybody on board through sensitization, then we reached a consensus that we needed a policy framework that would help bridge the gaps that were existing, because there were good policies, good programs, but they lacked the gender component and the gender issues. (KENYA01)

That level of direct engagement is clear in the language of the Gender Policy, which uses the language brought by civil society.

4.2. Economic opportunity

Economic opportunity represents a key goal of most government and parastate actors who were consulted on the MoE's Gender Policy, including the Ministry of Energy, State Department of Gender Affairs, and KETRACO (KENYA01, KENYA02, KENYA12). For these political actors, economic opportunity is an important objective to ensure that women as well as men benefit equally from state development projects. Workplace equality is a related goal pursued by parastate actors, who have internalized this objective through efforts to promote equal representation within the energy sector. (KENYA09, KENYA10, KENYA11). This is explored further in Section 4.4 on Gender Equality.

Government actors prioritize equal economic opportunity through the mandate derived from Kenya's Vision 2030, which positions energy and economic development as national and interdependent priorities. This framework, and its corresponding “Big Four Agenda,” guides the work of institutions like the Ministry of Energy, whose mandate highlights energy's enabling role across other national goals, including infrastructure, housing, health, and food security. As a Ministry official stated: “...the big four agenda is what we want to achieve until 2022...we are looking at the infrastructure, affordable housing, food security and health. But you can see out of all that energy is an enabler” (KENYA01).

At the firm and household level, equal economic opportunity serves as a guiding principle for political actors like the State Department for Gender Affairs and parastate companies like KETRACO (KENYA02, KENYA12). Part of KETRACO's mandate is to ensure underprivileged communities (namely women and disabled people) can benefit equally from energy projects. For example, KETRACO is concerned whether their energy projects have:

...impacted positively on women's empowerment, have they impacted positively on the health sector, on the education sector, on the environment, have these projects increased the income generation for women and men also? Are underprivileged communities and marginalized communities benefiting from the energy projects? Are the energy projects putting into consideration the needs of the special interest groups, including the people living with disabilities? (KENYA12)

The State Department for Gender Affairs also states that one of their focus areas is “increasing women's participation in politics and decision making, increasing humans access to justice, increasing women's participation in social, economic activities and increasing their income among others” (KENYA02).

Equal opportunities seem to encompass both equal access to energy and equal access to success in the energy business. For example, the Ministry of Energy stated:

But the government now wants to promote access so that more women don't just benefit but they do business in the energy sector. So there is that promotion of encouraging more women to come up and implement projects or to sell solar gadgets that promote lighting, and also a clean cooking week. (KENYA01)

The State Department for Gender Affairs agreed that women faced barriers to participating in the energy sector (KENYA02). KETRACO and Practical Action also recognize energy access as a pathway for economic empowerment, but interviewees rarely went as far as discussing energy for productive use in the context of gender. Notably, this emerged as a

⁵ Kenya's Big Four Agenda (2018–2022) consists of four key pillars: Manufacturing, Food and Nutrition Security, Universal Health, and Affordable Housing

more prominent topic in other gender and energy policies, such as Senegal's National Action Plan on Gender Mainstreaming in Energy Access [56].

The strong government focus on economic development is clearly core to the MoE's Gender Policy, which reinforces the government's legal mandate to ensure equal socio-economic opportunities for all citizens, stating: "Affordable, efficient, improved and renewable energy technology not only increases energy security and reduces greenhouse gas emissions but can also provide new economic and educational opportunities for women, men and children" [26]. The Gender Policy frequently mentions sustainable development and poverty reduction, highlighting the relevance of Sustainable Development Goals 1 (End poverty and hunger), 5 (Gender equality), 7 (Sustainable energy for all), and 13 (Climate action) [26]. Furthermore, the Gender Policy describes economic development as an outcome of energy access, using the Ministry of Energy's framing, as well as promoting equal opportunity to benefit from that economic development. The main purpose of the Policy is described as follows: "It aims at achieving equality of opportunities and outcomes with respect to access and control over energy resources, services and products in accordance with the distinct categories of women and men" [26].

To achieve this equality of opportunity, the Gender Policy approaches business support through budget quotas. This is to ensure compliance with the Access to Government Procurement Opportunities (AGPO) rule included in the Constitution, which requires all public entities to have at least 30 % of their total procurement budget to firms owned by women, youth, and disabled people. This rule exists to improve the economic livelihoods of more vulnerable groups [27]. Thus, as in the case of other objectives (Section 4.4 Gender Equality), the MoE's Gender Policy reflects the pervasive power of Kenya's strong national legal mandates on equality.

4.3. Clean cooking access

The prioritization of clean cooking in the Gender Policy reflects years of support and lobbying from domestic and international civil society. The GoK has supported clean cooking over the last two decades through a range of policies targeting different technologies. The Sessional Paper No. 4 of 2004 outlined Kenya's energy policy framework for 2004–2023, aiming to promote affordable and high-quality energy services nationwide and setting specific targets for the adoption of efficient cookstoves in urban and rural areas [58]. Subsequent policies and regulations, including the Energy Act No 12 of 2006, the 2010 National Climate Change Response Strategy (2010), and the 2013 National Climate Change Action Plan, further address clean cooking, with varying degrees of focus on the promotion of bioenergy cookstoves [58].

Despite this, clean cooking is barely mentioned in the 2019 National Energy Policy, which sets a target for universal electrification by 2030, but there is no target for clean cooking [59]. Policies that focus exclusively on clean cooking have only emerged from the Ministry of Energy in the wake of the 2019 Gender Policy, such as the 2022 Behavior Change and Communication Strategy for Promoting Clean Cooking in Kenya and the 2024 Kenya National Cooking Transition Strategy [41,60].

Within the 2019 Gender Policy, clean cooking is very prominent. It is one of the five core objectives: "to promote clean cooking solutions and environmental sustainability." The Policy aims to assess the state of clean cooking adoption, work with civil society organizations (CSOs) to promote further adoption, as well as to promote a range of environmental efforts. These include promoting conservation programs and energy efficiency and encouraging their semi-autonomous agencies, such as KETRACO, to promote environmental conservation. These environmental activities are included under the clean cooking objective. The low uptake of cleaner technologies is attributed to a lack of awareness of alternatives, high costs, or inadequate supply (KENYA05, KENYA08). Because of this, activities related to Objective 5 of Gender Policy focus

on the demand side and consumer interventions to promote adoption.

Government stakeholders are broadly supportive of clean cooking, including buy-in from the MoE, State Department for Gender Affairs, Ministries of Health, Gender, Education, Environment, Forestry, and Prisons (KENYA01, KENYA02, KENYA07, KENYA06). In the interviews, this objective was clearly also supported by civil society actors, including ENERGIA, Hivos, Clean Cooking Alliance, and the Clean Cooking Association of Kenya (KENYA04, KENYA05, KENYA08).

Clean cooking was broadly acknowledged among respondents, recognizing its critical role, especially in its positive effects on women and girls. The wide interest in clean cooking is in alignment with the Kenyan government's efforts to adopt cooking technologies (KENYA08). The Ministry of Energy has a goal of universal clean cooking access by 2028 (KENYA01) [41]. A range of technologies and fuels are being promoted, and the MoE particularly emphasizes biogas, bioethanol, electricity, and LPG within the Gender Policy.

Alongside the government, the Clean Cooking Association of Kenya (CCAK) and Clean Cooking Alliance (CCA) are leading civil society efforts to bolster the private sector and support clean cooking companies to become commercially viable. Part of that work includes raising awareness among users to educate them on alternative cooking solutions, improving government technology standards targets, and clearing pathways for achieving access goals (KENYA05, KENYA08). They specifically encourage sub-national governments to promote and monitor the adoption of technologies and to achieve environmental conservation through clean cooking (KENYA08).

These stakeholders frame clean cooking in three ways. First, government actors highlight the relationship between clean cooking and the environment. The Ministry of Energy explicitly discussed environmental conversation as a key priority, highlighting the alignment between their aim to "conserve the environment" and the Paris Agreement (KENYA01). The CCAK also noted that the MoE is trying to "overall promote conservation and environmental conservation, and clean cooking is very much part of it" (KENYA08). The Ministry of Environment and its Forestry Division were cited as actors who would "interact [with the MoE] to advance their goals that are energy-related" (KENYA06). Clean cooking is also embedded in Kenya's National Climate Change Action Plan, owned by the Ministry of Environment and Forestry [61].

Second, government and civil society actors highlighted the connection between clean cooking and health. Hivos noted that a lack of clean cooking access was not just bad for the economy but also "has health impacts on the household," while the Clean Cooking Alliance noted that the MoE and the Ministry of Health have started to pay more attention to the issue (KENYA04, KENYA05). The MoE, in a 2022 behavior change campaign, has since used the rallying cry "Upishi Bora, Afya Bora" (Better Cooking, Better Health) [60].

Finally, the discussion of health quickly turned to clean cooking's impact on women, which has been well-documented in the academic literature, but which is worth highlighting for a moment here to show its continued prevalence in civil society discourse [13]. Hivos and others recognized that most of the "people who face these health impacts are women and children" because of indoor air pollution (KENYA04, KENYA07). Participants, such as the CCAK, highlighted how clean cooking is critical for gender equality: "There are various opportunities that the government may have been helpful for households to promote clean cooking, promoting gender equality because women are more disadvantaged than men" (KENYA08). The interviewee from the University of Nairobi made a finer point about it, stating that clean cooking can "save time for other productive uses" for women, who are still the primary cooks in the household (KENYA07).

The prioritization of clean cooking by civil society and government is clearly reflected in the prominence of the clean cooking objective of the Gender Policy. The explicit inclusion of a clean cooking objective is unlike its only real comparison, West Africa's Policy for Gender Mainstreaming in Energy Access. That Policy makes no explicit mention of clean cooking at the regional level, although national policies may differ

[57]. In fact, the Gender Policy was announced at the Clean Cooking Forum in 2019, reflecting the Policy's strong association with clean cooking (KENYA05). The connection between clean cooking and the environment, as highlighted by MoE, is also clearly reflected in the title of the Gender Policy's clean cooking objective: "Clean Cooking Solutions and Environmental Sustainability."

From the interviews, it also becomes clear that civil society actors have pushed the MoE to work harder on clean cooking (KENYA05, KENYA12). The Clean Cooking Alliance has pushed the government to comply with ISO standards for clean cooking. It is also promoting the mainstreaming of clean cooking by creating clean cooking offices:

My organization is trying to get off the ground a model that we're calling the delivery units network where we would support governments financially and setting up like a dedicated clean cooking office and then within a given country. And that would ideally include government employees from a couple of different ministries, but would allow them to really just focus on clean cooking.

(KENYA05)

Even the Gender Policy acknowledges the role of CSOs and NGOs that have implemented most of the cooking interventions in the country. As the Gender Policy explains:

Kenya is making a good effort in promoting clean cooking technologies. However, most of the interventions are done by CSOs and NGOs within the sector, in collaboration with the Ministry. There is need for the government to focus more in promoting alternative energy solutions for cooking, while at the same time lead in creation of a cross-sectoral initiative to bring together different on-going efforts and improve coordination across agencies, private sector, CSOs and NGOs, for improved capacity (SE4All:2015).

Other state actors, such as KETRACO, noted the respect and authority that Practical Action, CSOs and other gender actors had in the room, noting that they "definitely keep us in check" (KENYA12). The final Gender Policy reflects the long engagement of civil society actors on gender and clean cooking, from Practical Action and ENERGIA's initial gender audit and support in policy development to the ongoing work of the CCAK and CCA in supporting policy implementation.

4.4. Gender equality

Gender equality naturally emerges as one of the core objectives of the stakeholders involved in the Gender Policy (KENYA 02, KENYA01, KENYA03, KENYA07, KENYA12, KENYA09, KENYA11, KENYA08). However, the strong buy-in from government actors reveals top-down pressure from the legal framework of Kenya's governance, namely, the Constitution's two-thirds gender rule. Government actors spoke openly about their aim to foster inclusivity across multiple sectors and domains. The Ministry of Energy, for instance, said that it was committed to embedding gender considerations into its policies, aligning with national ambitions to incorporate gender perspectives across all sectors (KENYA01). Concurrently, the Ministry of Public Service, Youth, and Gender Affairs (now referred to as the Ministry of Public Service Performance and Delivery Management) articulated their objective to infuse national gender and development policies into sectoral frameworks, promoting gender-responsive policies, combating gender-based violence and enhancing women's socioeconomic empowerment (KENYA02).

Rather than discussing these objectives as good in and of themselves, the Ministry of Public Service, Youth and Gender Affairs specifically referenced the constitutional mandate stipulated in Article 27(8) of the 2010 Kenyan Constitution (the two-thirds rule), which seeks to rectify historical gender imbalances and ensure equitable participation in decision-making processes (KENYA02). They found that this rule was more likely to be implemented in the public sector:

Some private sector organizations have not taken [the two-thirds rule] very positively, and they have tended to discriminate against women, so we found that the two-thirds gender rules in employment and promotion to positions of leadership have not been implemented in the private sector, much as it has been very well implemented in government ministries and state corporations.

(KENYA02)

Other government or state-owned companies echoed the importance of the constitution in pushing for affirmative action-style policies (KENYA01, KENYA09, KENYA10).

Given that the Gender Policy was developed by the public sector, we can see the effort made to adhere to the two-thirds rule in the Policy, which includes a section dedicated to ensuring compliance with the Constitution on Gender. However, we also see affirmative action is defined in the preface, but never actually used in the text. This might reflect a more complicated set of opinions that stakeholders hold over quotas.

In general, affirmative action (among other policy tools) was viewed as necessary for increasing representation, particularly in senior management roles within the STEM fields (KENYA02, KENYA03, KENYA05, KENYA07, KENYA12). A key informant from the University of Nairobi believed that a female leader would better understand gender responsiveness and be more committed to gender mainstreaming (KENYA07). It is worth noting that the academic literature is inconclusive: it is not clear that the presence of women in politics increases support of gender equality policy [62]. The Gender Policy also addresses the complaint that quotas are insufficient if women are still not present in leadership positions.

No actors expressed the belief that supporting gender equality would limit their ability to meet other objectives. In fact, both civil society and state-owned enterprises saw opportunities to pursue capacity-building objectives through the Gender Policy, such as through gender-responsive training programs that build skills while fulfilling quotas (KENYA03, KENYA12). However, some actors were concerned that pursuing gender equality through quotas may be limited by a lack of STEM education for women. For example, a representative from KETRACO stated: "If you want to achieve this two-third of women [...] we should make sure that we champion women to pursue science and technology" (KENYA11).

That being said, gender mainstreaming continued to be a priority across sectors. State-owned KETRACO noted that "Gender mainstreaming is a national concern. So even other sectors beyond the ministry of energy and within the public service are gearing or, rather, are making steps towards achieving the same" (KENYA11). Indeed, actors across sectors argued that gender equality is relevant for all of society, rather than viewing it as a women's issue or a gender power struggle (KENYA01, KENYA03, KENYA07, KENYA12).

Broadly speaking, the most concrete actions in the Gender Policy appear to be a continued reflection of the political support for gender equality at the national level, rather than an indication of any one actor's influence. As a final example, many actors highlighted the value of including lactating rooms in the Ministry of Energy's offices (KENYA01, KENYA06, KENYA09, KENYA10, KENYA12), as well as a requirement in the policy that organizations "provide breastfeeding facilities for lactating female officers" (pg 30). This is not a novel innovation of the Gender Policy, but in fact, a reflection of the Health Act of 2017, which mandates all employers to provide lactating stations [63]. In this way, the Gender Policy reflects the increased emphasis that Kenyan national politics has put on gender equality over the past decade.

5. Discussion

The aim of this study was to understand how the dynamics between key actors in the gender and energy space influenced the development of the MoE's 2019 Gender Policy. This was achieved by identifying the

objectives of key players and exploring how those objectives were reflected (or not reflected) in the Policy, taking into consideration the contextual information given by the interviewees. We find that key actors held four major objectives: expanding electricity access, economic opportunity, access to clean cooking technologies, and gender equality. Examining how these objectives are realized in the Policy, we find a convergence of top-down government efforts to uphold constitutional rights to gender equality and bottom-up advocacy from civil society to prioritize clean cooking and women's access to energy services.

The objectives related to energy access, economic opportunity, and gender parity were predominantly driven by a top-down approach. The MoE's goal to achieve universal energy access by 2030 was well-defined and tailored to actionable steps, with various sub-sectors working towards this target through their specialized activities. In contrast, the gender equality objective had broader backing due to its constitutional support, making it a state-sponsored goal that is mandated across multiple ministries, including the MoE. The constitutional mandate of gender mainstreaming is perhaps best articulated by an official from the Geothermal Development Company, who stated:

So in any set up whether government or private set up, whether employment or any other consideration, you are required to observe that gender rule. So if you fail to observe it then you are breaking a law then a due process is going to be followed so that you address that rule. So there is that law in Kenya. It is a law that is in the constitution and you cannot break it.

(KENYA10)

While energy access and energy for economic development remain the primary goals of the MoE, gender parity is a state goal disseminated to sub-national levels and stakeholders. The inclusion of clean cooking, on the other hand, illustrates a bottom-up approach, influenced significantly by civil society organizations, leveraging their expertise and knowledge to shape government vision and policy importance.

While the focus of this analysis was the development of the Gender Policy, our interviews also revealed some insights into its implementation. First, there was significant coordination among actors, which gave interviewees hope for effective implementation. As a representative from the Ministry of Energy explained,

Yes, we have specific holders who are supposed to achieve specific tasks. So what we did was we established a committee and I can call it a working group or a committee. We call it the Energy Sector Gender Committee. And we brought all these decision-makers together in that committee, and we sensitized them on the key components in that Policy, so each person was given the tasks to go and perform.

(KENYA01)

Participants interviewed, including KENYA01, KENYA02, KENYA05, KENYA06, KENYA09, KENYA10, KENYA11, and KENYA12, all emphasized the significance of bi-annual meetings among state actors and stakeholders to report on progress. The inter-committee meetings across sub-agencies aim to track progress and exchange vital lessons for significant advancements. State agencies, having developed their policy programs, regularly conduct internal workshops on gender mainstreaming and monitoring progress. Just as the awareness creation of the need for gender mainstreaming is essential, there is a need to integrate gender-related programs into annual programs. Additionally, continuous monitoring and evaluation of the success or performance in the implementation of such policies are crucial.

The study further indicates that state sub-agencies interviewed have reported achievements in developing their institutional frameworks, citing the creation of workplace policies aimed at addressing gender disparities and fostering inclusivity (KENYA09, KENYA11, KENYA12). The findings highlight collaborative efforts, such as mentorship programs and committee representations, within these agencies to advance gender mainstreaming objectives.

That being said, there are some usual challenges that emerged: namely, a lack of funding. Financial constraints, rooted in a dependence on state funding, often pose a significant barrier to gender mainstreaming efforts [56,64,65]. In the Kenya case, both financial constraints (as noted by KENYA01 and KENYA02) and a shortage of expert human resources in gender mainstreaming (highlighted by KENYA08) are key challenges. Financial constraints primarily revolve around obtaining adequate support, with the majority of implementation funds expected from the state and the remaining portion from private and state organizations. The lack of state funding translates to less commitment, as any delay or reduced support from key agencies significantly hampers progress in achieving gender mainstreaming goals. Gender budgeting could be implemented to mainstream gender into fiscal policy and back political commitments to gender equality with financial commitments [66]. Despite various training programs aimed at addressing the gap in human resources expertise, commitment and undertaking remain lacking. Many state agencies, having established gender focal units, still require experts to ensure successful policy implementation.

Interviewees also pointed to broader challenges in enacting the two-thirds gender rule. Despite efforts to meet the two-thirds gender rule, the findings reveal a notable deficiency in the representation of women in decision-making roles across many state agencies under the Ministry of Energy, especially in management positions. This deficiency is primarily attributed to insufficient gender-skilled personnel committed to this cause [24,67], especially in a predominantly male-dominated profession. The availability of expert personnel emerges as a pivotal factor influencing the effective implementation of affirmative action policies [67].

Another reported challenge from participating stakeholders is cultural resistance to women in the workforce or in positions of power. A respondent from the Clean Cooking Alliance noted that *"the culture has been there, and we grew with it, so sometimes it's not intentional, but you know when appointments are being made, this is a key aspect"* (KENYA08). Cultural norms often unintentionally favor male appointments, and the deeply ingrained perception that men are more competent persists, particularly in institutional leadership roles. The challenge is even worse in the energy sector, which is male-dominated due to higher levels of STEM education requirements, and where women face increased social and economic barriers to accessing employment opportunities.

6. Conclusion

The Gender Policy for Energy Access in Kenya underscores the Ministry of Energy's 2030 target for universal electricity access, emphasizing equal access as a core policy objective driven by a gender-differentiated approach influenced significantly by international NGOs. This approach, spurred by past gender audits revealing the inadequacies of gender-neutral policies, aims to address the specific energy needs of men and women. Economic development through energy access is framed as a constitutional right rather than merely an economic benefit. Clean cooking initiatives, heavily promoted by civil society organizations, align with government climate priorities and contribute to achieving climate change goals. Lastly, the Policy reflects a top-down commitment to gender equality, driven by the constitutional two-thirds gender rule, highlighting the government's effort to address the constitutional crisis arising from non-compliance with this rule, thus ensuring a comprehensive integration of gender considerations in the energy sector.

Key among the findings' implications is the need to train more gender experts to take charge of the gender focal units in various ministries. For clean cooking access, further funding is needed to conduct sensitization campaigns to increase awareness and reduce cultural hurdles. Broader efforts will be needed to encourage and equip women to undertake energy-related education for managerial roles to achieve the vision of the two-thirds rule. However, the Kenyan government has made remarkable strides towards energy access and gender inequality in

the last two decades and represents a regional and global leader on gender mainstreaming within the energy sector. Addressing gender disparities in an energy sector committed to universal access through low carbon technologies exemplifies one way in which governments can promote a gender-just energy transition.

CRedit authorship contribution statement

Isaac Kwamena Nunoo: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Thomas Klug:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Victoria Plutshack:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Mawunyo Agradi:** Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Resources, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Sarah Appiah:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Rajah Saparapa:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Interview guidelines

Introduction

In our framework, we understand the policy outcome as the result of the bargaining of different actors with different priorities and their relative influence (power) in the policy making process. The aim of the questionnaire is to provide a guideline for questions to be asked. The conversation and questions asked will depend upon the person interviewed and the way in which the conversation develops. The standard conversation should proceed as follows:

- Thanks for availability and willingness to participate
- **Explanation of project:** Together with my colleagues, we are working on a research project dealing with the implementation of Kenya's Gender Policy for Gender Mainstreaming in Energy Access. In particular, we would like to better understand the objectives of different actors involved in gender and energy access policy, its implementation and the synergies and trade-offs of integrating gender mainstreaming and other development priorities. We are conducting interviews with stakeholders from politics, business and civil society. We are interested in the perspectives of your organization or institution as well as your personal perspective.
- Information about the interview:
- The interview will take 30–60 minutes.

- If you allow, I would like to record the interview, as I am performing too many interviews in a short time period and this helps me to better document the perspectives of different stakeholders.
- Although your answers may be quoted in the analysis, your name and title will not be used. If there are any questions you do not want to answer, it's no problem at all!
- Check that a consent form has been sent, and confirm consent

1.1 Objectives and priorities

We want to understand your organization and its objectives.

1. First, let me ask you about your work, which topics do you work on?

a. What is your organization's mandate and its three most important goals?

b. What has been your involvement with Kenya's Policy for Gender Mainstreaming.

in Energy Access at [insert organization name here]?

c. What has been your involvement with gender work or energy access work, in general, at [insert organization name here]?

[Note goals from 1.1.2 later questions].

1.2 Gender Policy

We are interested in the content and development of [insert country name]'s Gender Policy as outlined in the Policy for Gender Mainstreaming in Energy Access.

1. What are the most important aspects of the Gender Policy?
2. [if no Gender Policy exists] What is the timeline for formulating [insert country name]'s Gender Policy?
3. [if no Gender Policy exists] What have been the challenges in formulating [insert country name]'s Gender Policy?
4. Which departments/organizations are involved in developing the Gender Policy?

a. Is your department involved in developing, guiding, implementing or advocating.

for the Gender Policy?

b. Do you see the interests of your organization or challenges reflected in the.

Gender Policy?

c. Which other actors are involved in developing the Gender Policy [civil.

society, community organizations, trade association]? How would you describe.

their involvement? (i.e. advocacy, public pressure campaigns, stakeholder.

engagement efforts, etc.)

1.3 Policy Implementation

We are interested in better understanding who is responsible for policy implementation.

1. How is [insert country name] planning to fund the budget? Is the majority funded.

through the Ministry of Energy? Are there other external funders?

2. How has [insert country name] been doing to meet the targets of the Gender Policy?

3. How has your organization been involved in implementing the Gender Policy?

4. What are the successes and challenges that your organization faced in implementing the Gender Policy?

5. Is there coordination (or potential for coordination) between certain stakeholders.

involved in implementing the Gender Policy?

a. What are the objectives of those stakeholders [if not already described]?

6. Is there conflict (or potential for conflict) between certain stakeholders involved in.

implementing the Gender Policy? What trade-offs do you envision for these actors?

a. What are the objectives of those stakeholders [if not already

described]?

1.4 Contextual issues: Gender, Energy Access and perspectives

As every other country, [insert country] has historical experiences with gender and energy access, separately and together, that play a role in the challenges they face.

1. When did your organization begin discussing gender/energy access as an issue, what was the social/political context?

2. From your organization's perspective, what are the challenges and opportunities for tackling these issues in [insert country name]?

3. How have you seen these challenges or opportunities manifest in the policy-making or implementation process?

4. Have you observed resistance to gender mainstreaming Policy? From which actors and why?

5. Were there particular social, economic or political factors that facilitated the acceptance of gender mainstreaming?

6. To what extent is public participation a part of the process of policy development?

1.5 Other key actors

1. What role do civil society organizations play in gender and/or energy access efforts? Who are the key actors in civil society? What role does it play in the regions and at the local level?

2. Are there specific industries or economic sectors where gender/energy access efforts play a bigger role? Who are the key actors?

3. What role do political parties play? How do the parties distinguish themselves on this issue? What role do they play in the regions and at the local level?

[Not all questions may be relevant for all actors and a subset of these questions may be used]

Data availability

Data will be made available on request.

References

- L. Lane, S. Dhal, N. Srivastava, Gender empowerment and community of practice to promote clean energy sustainability, in: W. Leal Filho, A. Marisa Azul, L. Brandli, A. Lange Salvia, T. Wall (Eds.), *Affordable and Clean Energy*, Encyclopedia of the UN Sustainable Development Goals, Springer International Publishing, Cham, 2021, pp. 689–698, https://doi.org/10.1007/978-3-319-95864-4_151.
- World Bank, 'Access to electricity (% of population)', the World Bank, Accessed (Jan. 19, 2024) [Online]. Available: <https://data.worldbank.org/indicator/EG.EL.C.ACCS.ZS?locations=KE>.
- S.A. Ngum, Empowering women in Africa through access to sustainable energy, *Afr. Dev. Bank Group Consult. Em 10* (2016) 2020.
- S. Akter, C. Pratap, Impact of clean cooking fuel adoption on women's welfare in India: the mediating role of women's autonomy, *Sustain. Sci.* 17 (1) (Jan. 2022) 243–257, <https://doi.org/10.1007/s11625-021-01069-9>.
- P.P. Krishnapriya, M. Chandrasekaran, M. Jeuland, S.K. Pattanayak, Do improved cookstoves save time and improve gender outcomes? Evidence from six developing countries, *Energy Econ.* 102 (2021) 105456.
- P. Maji, Z. Mehrabi, M. Kandlikar, Incomplete transitions to clean household energy reinforce gender inequality by lowering women's respiratory health and household labour productivity, *World Dev.* 139 (2021) 105309.
- J. Mazorra, E. Sánchez-Jacob, C. de la Sota, L. Fernández, J. Lumbreiras, A comprehensive analysis of cooking solutions co-benefits at household level: healthy lives and well-being, gender and climate change, *Sci. Total Environ.* 707 (2020) 135968.
- M.A. Twumasi, Y. Jiang, B. Addai, D. Asante, D. Liu, Z. Ding, Determinants of household choice of cooking energy and the effect of clean cooking energy consumption on household members' health status: the case of rural Ghana, *Sustain. Prod. Consum.* 28 (2021) 484–495.
- T. Urmee, S. Gyamfi, A review of improved Cookstove technologies and programs, *Renew. Sustain. Energy Rev.* 33 (May 2014) 625–635, <https://doi.org/10.1016/j.rser.2014.02.019>.
- I. Das, et al., Frameworks, methods and evidence connecting modern domestic energy services and gender empowerment, *Nat. Energy* 8 (5) (2023) 435–449.
- E. Fingleton-Smith, The lights are on but no (men) are home. The effect of traditional gender roles on perceptions of energy in Kenya, *Energy Res. Soc. Sci.* 40 (Jun. 2018) 211–219, <https://doi.org/10.1016/j.erss.2018.01.006>.
- T. Winther, *The Impact of Electricity: Development, Desires and Dilemmas*, Berghahn Books, 2008.
- T. Winther, M.N. Matinga, K. Ulrud, K. Standal, Women's empowerment through electricity access: scoping study and proposal for a framework of analysis, *J. Dev. Eff.* (Jul. 2017), <https://doi.org/10.1080/19439342.2017.1343368>. Accessed: Apr. 02, 2025. [Online]. Available: <https://doi.org/10.1080/19439342.2017.1343368>.
- R. Malonza, M.L. Fedha, An assessment of gender and energy in Kenya: the underlying issues, *Int. J. Sci. Technol. Res.* 4 (9) (2015) 137–153.
- K.R. Daka, J. Ballet, Children's education and home electrification: a case study in northwestern Madagascar, *Energy Policy* 39 (5) (2011) 2866–2874, <https://doi.org/10.1016/j.enpol.2011.02.060>.
- F. Denton, Reducing the gap between projects and policies: a comparative analysis of the "butanisation" programme in Senegal and the Multifunctional Platform (MFP) experience in Mali, *Energy Sustain. Dev.* 8 (2) (Jun. 2004) 17–29, [https://doi.org/10.1016/S0973-0826\(08\)60456-1](https://doi.org/10.1016/S0973-0826(08)60456-1).
- K. Standal, *Giving Light and Hope in Rural Afghanistan: Enlightening Women's Lives with Solar Energy*, Lambert Academic Publishing, 2010.
- T. Winther, The introduction of electricity in the Sundarban Islands: conserving or transforming gender relations?, in: *Women, Gender and Everyday Social Transformation in India* vol. 1 Anthem Press London, 2014, p. 47. Accessed: Apr. 02, 2025. [Online]. Available: <https://books.google.com/books?hl=en&lr=&id=aA4iBAAQBAJ&oi=fnd&pg=PA47&dq=The+Introduction+of+Electricity+in+the+Sundarban+Islands:+Conserving+or+Transforming+Gender+Relations%3F&ots=fUmJUJGnULp&sig=K0tXhRTONsWtzFk2j4oqdfyGpOk>.
- G. Köhlin, E.O. Sills, S.K. Pattanayak, C. Wilfong, *Energy, Gender and Development: What are the Linkages? Where is the Evidence?* (September 1, 2011). World Bank Policy Research Working Paper No. 5800, Available at SSRN: <http://ssrn.com/abstract=1931364>.
- Botswana Power Corporation and ENERGIA, Gender mainstreaming in the Botswana power corporation, Botswana Power Corporation (2011) 1–34 Accessed: Apr. 02, 2025. [Online]. Available: <https://advocacy.energia.org/document/gender-mainstreaming-in-the-botswana-power-corporation/>.
- E. Cecelski, S. Dutta, Mainstreaming gender in energy projects: a practical handbook, ENERGIA (2011) 1–140 Accessed: Apr. 02, 2025. [Online]. Available: <https://energia.org/document/mainstreaming-gender-in-energy-projects-a-practical-handbook/>.
- J.S. Clancy, N. Mohlakoana, Gender audits: an approach to engendering energy policy in Nepal, Kenya and Senegal, *Energy Res. Soc. Sci.* 62 (2020) 101378, <https://doi.org/10.1016/j.erss.2019.101378>.
- Ministry of Energy (MOE), *Gender-Policy-in-Energy-Kenya, 2019*.
- GoK, Article 27(8) of the Constitution of Kenya 2010, 2010.
- A. Babkir, Kenya's Continual Failure to Meet Their Two-thirds Gender Quota [Online]. Available: <https://ohrh.law.ox.ac.uk/kenyas-continual-failure-to-meet-their-two-thirds-gender-quota/>.
- R. Listo, Gender myths in energy poverty literature: a critical discourse analysis, *Energy Res. Soc. Sci.* 38 (2018) 9–18, <https://doi.org/10.1016/j.erss.2018.01.010>.
- E.W. Cecelski, From Rio to Beijing: engendering the energy debate, *Energy Policy* 23 (6) (Jun. 1995) 561–575, [https://doi.org/10.1016/0301-4215\(95\)91241-4](https://doi.org/10.1016/0301-4215(95)91241-4).
- A.E. Athena, Implementation of the Two Thirds Gender Rule in the Kenyan Parliament, Strathmore University Law School, 2021. Accessed: Apr. 02, 2025. [Online]. Available: <https://su-plus.strathmore.edu/handle/11071/12292>.
- C. Kaimenyi, E. Kinya, S. Chege, An analysis of affirmative action: the two-thirds gender rule in Kenya, *Int. J. Bus. Humanit. Technol.* 3 (6) (2013) 91–97.
- M. Takase, R. Kipkoeh, P.K. Essandoh, A comprehensive review of energy scenario and sustainable energy in Kenya, *Fuel Commun.* 7 (2021) 100015.
- I.K. Rotich, H. Chepkirui, P.K. Musyimi, Renewable energy status and uptake in Kenya, *Energy. Strat. Rev.* 54 (Jul. 2024) 101453, <https://doi.org/10.1016/j.esr.2024.101453>.
- International Trade Administration, Kenya - Energy-Electrical Power Systems, Accessed: Nov. 28, 2023. [Online]. Available: <https://www.trade.gov/country-commercial-guides/kenya-energy-electrical-power-systems>.
- S. Odera, Is Nuclear Power a Cost Optimal Solution for Kenya's Electricity Generation Mix?, Master's Thesis University of Cape Town, 2016. Accessed: Nov. 28, 2023. [Online]. Available: <https://open.uct.ac.za/handle/11427/20830>.
- L.C. Sitienei, An Assessment of the Challenges Affecting Electricity Transmission Network Expansion in Kenya; a Case Study of KETRACO, PhD Thesis, Strathmore University, 2020. Accessed: Nov. 28, 2023. [Online]. Available: <https://su-plus.strathmore.edu/handle/11071/10197>.
- J.K. Kiplagat, R.Z. Wang, T.X. Li, Renewable energy in Kenya: resource potential and status of exploitation, *Renew. Sustain. Energy Rev.* 15 (6) (2011) 2960–2973, <https://doi.org/10.1016/j.rser.2011.03.023>.
- B.M. Kiprono, D.D.M. Wanyoike, Factors influencing implementation of partnership-funded projects at Kenya electricity transmission company (KETRACO) in Kenya, *Am. Based Res. J.* 8 (04) (2019). Accessed: Nov. 28, 2023. [Online]. Available: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3584389.
- World Bank, Access to clean fuels and technologies for cooking (% of population), Accessed: Jan. 19, 2024. [Online]. Available: <https://data.worldbank.org/indicator/EG.CFT.ACCS.ZS>.
- MoEP, Kenya National Cooking Transition Strategy 2024–2028 [Online]. Available: <https://www.energy.go.ke/sites/default/files/KAWI/Strategies/Kenya%20National%20Cooking%20Transition%20Strategy.pdf>, 2024.
- CCA, Value-Added Tax on Cleaner Cooking Solutions in Kenya [Online]. Available: <https://cleancooking.org/binary-data/RESOURCE/file/000/000/631-1.pdf>, 2021.
- GOGLA, A big win for Kenya: Government reinstates VAT exemption on renewable energy products [Online]. Available: <https://www.gogla.org/a-big-win-for-kenya-government-reinstates-vat-exemption-on-renewable-energy-products/>.
- GoK, Sessional Paper No. 02 of 2019 on NATIONAL POLICY ON GENDER AND DEVELOPMENT [Online]. Available: <https://psyg.go.ke/wp-content/uploads/2019/12/NATIONAL-POLICY-ON-GENDER-AND-DEVELOPMENT.pdf>, Oct. 2019.

- [45] MoGCSD, Gender Policy [Online]. Available: <https://repository.kippira.or.ke/bitstream/handle/123456789/2799/MGCSD-Gender-Policy-2011.pdf?sequence=1&isAllowed=y>, Jul. 2011.
- [46] P.A. Murunga, The two-thirds gender rule and the question of women empowerment in Kenya, *Role Patriarchy Roll-Back Democr.* (2020) 134.
- [47] M.M. Skutsch, Gender analysis for energy projects and programmes, *Energy Sustain. Dev.* 9 (1) (2005) 37–52, [https://doi.org/10.1016/S0973-0826\(08\)60481-0](https://doi.org/10.1016/S0973-0826(08)60481-0).
- [48] Practical Action, Mainstreaming Gender in National Energy Policy and Plans: Learning from Kenya's Journey and Success [Online]. Available: <https://practicalaction.org/knowledge-centre/resources/mainstreaming-gender-in-national-energy-policy-and-plans-learning-from-kenyas-journey-and-success/>, Mar. 2023.
- [49] M. Jakob, C. Flachsland, J.C. Steckel, J. Urpelainen, Actors, objectives, context: a framework of the political economy of energy and climate policy applied to India, Indonesia, and Vietnam, *Energy Res. Soc. Sci.* 70 (2020) 101775.
- [50] N. Ohlendorf, M. Jakob, J.C. Steckel, The political economy of coal phase-out: exploring the actors, objectives, and contextual factors shaping policies in eight major coal countries, *Energy Res. Soc. Sci.* 90 (2022) 102590.
- [51] M. Hennink, B.N. Kaiser, Sample sizes for saturation in qualitative research: a systematic review of empirical tests, *Soc. Sci. Med.* 292 (2022) 114523.
- [52] Hivos, ENERGIA [Online]. Available: <https://hivos.org/program/energia/>.
- [53] Ministry of Energy and Petroleum, 'Sustainable Energy For All Kenya Action Agenda', Government of Kenya, Accessed: Apr. 03, 2025. [Online]. Available: <https://kenyaclimatedirectory.org/>, 2015.
- [54] Ministry of Energy and Petroleum, Sustainable energy for all Kenya investment prospectus, Government of Kenya (2016) 1-52 Accessed: Apr. 02, 2025. [Online]. Available: <https://www.undp.org/kenya/publications/sustainable-energy-all-kenya-investment-prospectus>.
- [55] T. Winther, K. Ulsrud, A. Saini, Solar powered electricity access: implications for women's empowerment in rural Kenya, *Energy Res. Soc. Sci.* 44 (2018) 61–74, <https://doi.org/10.1016/j.erss.2018.04.017>.
- [56] T.W. Klug, R. Saporapa, V. Plutshack, M. Agradi, S. Appiah, I. Nunoo, The political economy of gender mainstreaming in energy access in Senegal, *Environ. Res. Clim.* 3 (4) (Sep. 2024) 045011, <https://doi.org/10.1088/2752-5295/ad6bb5>.
- [57] T. Klug, R. Saporapa, V. Plutshack, M. Agradi, S. Appiah, and I. Nunoo, 'The Political Economy of Gender Mainstreaming in Energy Access in Senegal', ERCL, (Forthcoming).
- [58] A. Karanja, A. Gasparatos, Adoption and impacts of clean bioenergy cookstoves in Kenya, *Renew. Sustain. Energy Rev.* 102 (Mar. 2019) 285–306, <https://doi.org/10.1016/j.rser.2018.12.006>.
- [59] GoK, Energy Act of 2019 [Online]. Available: <https://faolex.fao.org/docs/pdf/ken193499.pdf>, Mar. 14, 2019.
- [60] MoE, Behavior Change and Communication Strategy for Promoting Clean Cooking in Kenya [Online]. Available: [https://energy.go.ke/sites/default/files/KAWI/Other%20Downloads/BCC%20Strategy%20for%20Promoting%20Clean%20Cooking%20%20Kenya\(1\).pdf](https://energy.go.ke/sites/default/files/KAWI/Other%20Downloads/BCC%20Strategy%20for%20Promoting%20Clean%20Cooking%20%20Kenya(1).pdf), 2022.
- [61] MoEF, National Climate Change Action Plan 2018–2022, 2018.
- [62] S. Childs, M.L. Krook, Analysing women's substantive representation: from critical mass to critical actors, *Gov. Oppos.* 44 (2) (Jan. 2009) 125–145, <https://doi.org/10.1111/j.1477-7053.2009.01279.x>.
- [63] Republic of Kenya, The Health Act of 2017, 2017, p. 72. Accessed: Apr. 02, 2025. [Online]. Available: <https://www.fao.org/faolex/results/details/en/c/LEX-FAOC169966/>.
- [64] S. Appiah, V. Plutshack, M. Agradi, T.W. Klug, I. Nunoo, R. Saporapa, The political economy of gender mainstreaming in energy access in Sierra Leone, *Environ. Res. Clim.* 3 (4) (Dec. 2024) 045025, <https://doi.org/10.1088/2752-5295/ad8f59>.
- [65] J.S. Clancy, N. Mohlakoana, Gender audits: an approach to engendering energy policy in Nepal, Kenya and Senegal, *Energy Res. Soc. Sci.* 62 (2020) 101378.
- [66] M. Prebble, A. Rojas, Energizing Equality: Sub-Saharan Africa's Integration of Gender Equality Principles in National Energy Policies and Frameworks, IUCN, Power Africa, USAID, Washington, USA, May 2018. Accessed: Apr. 02, 2025. [Online]. Available: <https://genderandenvironment.org/energizing-equality-sub-saharan-africas-integration-of-gender-equality-principles-in-national-energy-policies-and-frameworks/>.
- [67] A.H. Sorman, X. García-Muros, C. Pizarro-Irizar, M. Gonzalez-Eguino, Lost (and found) in transition: expert stakeholder insights on low-carbon energy transitions in Spain, *Energy Res. Soc. Sci.* 64 (2020) 101414.