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*Transition énergétique et égalité des genres : Catalyser le changement en
Afrique par des politiques de développement inclusives*

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Gender and climate governance, addressing women's role in sustainable energy transition trends

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Résumé : La Conférence Économique Internationale de Dakar met en lumière l'importance de la transition énergétique et de l'égalité des genres en Afrique. Présentée par Amy Kebe, professeure associée à l'Université Cheikh Anta Diop, cette recherche se concentre sur le rôle des femmes dans la gouvernance climatique et les tendances de transition vers une énergie durable. L'étude souligne que le changement climatique affecte différemment les hommes et les femmes, avec des impacts disproportionnés sur les femmes en raison de leur rôle sociétal et de leur accès limité aux ressources. La transition vers des sources d'énergie renouvelables peut offrir des opportunités économiques et améliorer la santé, la sécurité et le bien-être des femmes. Cependant, pour réussir cette transition de manière équitable, il est crucial d'intégrer les considérations de genre dans les politiques énergétiques. Le document explore les cadres juridiques existants, les obstacles à l'intégration du genre et propose des recommandations pour des politiques de développement durables et inclusives. En conclusion, promouvoir l'égalité des genres dans le secteur de l'énergie est essentiel pour atteindre les objectifs de développement durable et assurer un avenir équitable et résilient pour tous.

Mots-clés : Energy transition, Gender equality, Sustainable development, Climate governance

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1. Background and context

How are we doing in terms of Gender Equality?

The 2023 UN Women and UN DESA annual report on the progress of gender equality across the 17 Sustainable Development Goals (SDGs) projects that in a worst-case climate scenario, as many as 158 million women and girls may be pushed into poverty as a direct result of climate change at the global level by 2050 (DESA, Progress on the Sustainable Development Goals: The gender snapshot 2023). Food insecurity caused by climate change is also projected to increase by as much as 236 million more women and girls at the global level. In sub-Saharan Africa, if the current trends continue, it has been projected that over 340 million women and girls will still live in extreme poverty by 2030 (DESA, Progress on the Sustainable Development Goals: The gender snapshot 2023).

This grim reality outlines how the world is progressing as far as gender equality is concerned, halfway to the end of the 2030 Agenda for Sustainable Development, which pledges to make gender equality a reality, as seen in its Leave No One Behind (LNOB) plea. Despite all the commitments and legal frameworks, the world is falling short of achieving gender equality, as revealed by this report, which advocates a collective and intentional intervention to course-correct for a world where every woman and girl has equal rights, opportunities, and representation.

Today, as evidenced by this conference we convened, we are presented with a global and local opportunity to bridge the gender gaps and fulfill the gender commitments to eradicate gender-based inequalities such as the feminization of poverty. Indeed, the recent move toward more resilient societies and economies driven by green and renewable energies embodies the possibility of correcting the gender shortcomings we have witnessed. Undoubtedly, it is good news that the growing transition toward cleaner energy sources goes in tandem with a call for greater gender equality and a goal to have women and other vulnerable individuals benefit more equitably from the millions of jobs provided by the Green Recovery efforts.

Up to 139 million new jobs will be created in the global energy sector by 2030, with 38.2 million in the renewable energy sector alone. (IRENA and ILO 2022). The transition to renewable energy and the circular economy could potentially generate over 100 million jobs by 2050 (OECD 2021 a). In 2019, the renewable energy sector employed 11.5 million people. (Otanicar 2023) with women making up 32% of the workforce, compared to 22% in the overall energy labor force (IRENA, Renewable capacity statistics 2020 International Renewable Energy Agency 2020). As such, a just energy transition is significant in bridging gendered gaps that have become systemized (UN, 2021b n.d.).

It is essential to address the gender gap in the energy sector, especially as many new jobs in the green economy will be in traditionally male-dominated sectors and occupations (ILO, 2023 n.d.). A just transition to renewable energy must be accompanied by efforts to promote gender equality, diversity, and inclusion. My paper argues that without addressing the deep-rooted gender-based inequalities and discriminations, a gender-just transition will not be achieved.

The Differentiated Impact of the Clean Energy Transition

The gendered dimensions of climate change, the differentiated needs and roles of women in climate protection efforts, and the Clean Energy Transition (CET) are undeniable facts. Climate change impacts are not neutral; they affect regions, different age groups, and the sexes differently. Numerous studies have shown that climate change has specific effects on women and men due to their different societal roles and varied access to social and economic resources. One of the main reasons for this is women's roles and responsibilities in households and communities and their differentiated access to and control of resources. Traditions and customs often limit women's economic opportunities by confining them to their reproductive and communal roles at the expense of their productive roles. However, women are not just victims of climate change; they are agents of change, and their empowerment is crucial in addressing these challenges.

In Africa, gender disparities considerably impact vulnerability, adaptation, and resilience to climate change (FELCI 2020), particularly affecting women due to their socio-economic status. For instance, droughts and floods intensify the burden on women and girls, often resulting in their absence from school as they are required to fetch water. Moreover, the necessity to travel long distances puts women and girls at risk of sexual harassment and violence. At the same time, children face the threat of violence while waiting to collect scarce water from pumps or water tanks (House 2014).

During severe weather events and natural disasters, women and girls may face additional challenges from societal norms. In Bangladesh, women are more vulnerable to fatalities during floods as they tend to avoid seeking refuge in crowded emergency shelters where they feel uneasy in the presence of men. Consequently, many women opt to remain in their homes, increasing their exposure to the threat of being swept away by the floods (Ayeb-Karlsson 2020).

Transitioning to renewable energy is essential for sustainability, yet it alone cannot ensure gender and social equity. Energy initiatives struggle to address complex socio-cultural and socio-economic dynamics perpetuating power imbalances. Failing to address these structural inequalities in energy access promptly could worsen gender disparities. Thus, integrating gender equality into new energy systems is crucial. Prioritizing equal opportunities and fair treatment, especially for marginalized groups like women, youth, elderly, displaced persons, and individuals with disabilities, fosters a just and inclusive transition. Making gender equality tangible is key to building resilient, sustainable societies.

Rationale For A Gender-Just and Equitable Energy Transition

Gender equality is crucial for achieving sustainable economies in Africa. Renewable, clean energy and gender equality are fundamental for Sustainable Development Goal 5 and empowering women and girls (UNDP, UN Women 2017). Gender-responsive policies can reduce women's vulnerabilities and empower them to drive positive change. Diversifying energy sources can create economic opportunities, improve livelihoods, and enhance well-being (Kuriakose and Nelson 2017).

However, the absence of gender targets for clean energy exacerbates energy poverty, disproportionately affecting women and girls globally (ENERGIA 2023). Climate change impacts women disproportionately, especially vulnerable groups such as older women and those in disaster-prone areas (IPCC 2014; ILO 2017b). Integrating gender considerations into climate policies is essential for a transition addressing these disparities.

A gender-responsive approach to sustainable development can inform stakeholders on effective policies that promote inclusivity and address gender-specific challenges.

Scope and Methodology

My presentation aims to contribute insights into achieving a gender-just energy transition that is resilient and sustainable, drawing from over 12 years of experience with World Bank and UNEP-sponsored climate projects in the Senegalese River Basin. Initially focusing on the gendered impacts of climate change, the discussion shifts to a theory of change and intersectionality. It emphasizes women's pivotal role as stewards of ecosystems and climate action, exploring innovative initiatives and alternative policy pathways.

To effect transformative change, understanding gender dynamics in roles, responsibilities, and power allocation is crucial. This analysis identifies practical needs and strategic interests, ensuring interventions benefit the entire population equitably. By addressing these dynamics, we empower marginalized groups, granting them decision-making opportunities and access to essential resources.

Women in poverty face significant barriers to participating in energy and development committees, compounded by constraints on time and resources, affecting their health and well-being. Addressing these challenges is essential in planning inclusive project investments and benefits. Discrimination

based on gender, race, indigeneity, disability, and socioeconomic status remains a critical concern, informing our research through a human rights perspective known as the 'gender and development approach.' This approach prioritizes economic rights, equal opportunities, and fair treatment, underpinning our exploration of the gendered dimensions of poverty and energy transition.

A rights-based approach underscores the need for equitable resource access and fair project interventions to address poverty and promote equality effectively. It aligns with SDG 7's call for universal energy access, reinforcing our commitment to inclusive and sustainable energy solutions.

Presentation Structure

The paper is organized as follows:

- Section 2 presents the analytical framework promoting gender-transformative and human rights-based approaches.
- Section 3 details the existing legal frameworks for a Gender-just Transition.
- Section 4 evaluates the potential advantages of incorporating a gender perspective and implementing gender-transformative interventions in energy-related projects.
- Section 5 explores the obstacles and gender imbalances faced in integrating gender in energy and other sectors.
- Section 6 concludes by highlighting the lessons learned and offering best practices as possible solutions for policy recommendations.

2. Analytical framework

A Bottom-Up Approach Mixed with Intersectionality and a Theory of Change

The background and rationale sections underline the importance of addressing gender and social inequalities in African development policies, particularly those related to energy transition. This is a fundamental step to ensure all-inclusivity in the renewable energy sector. To achieve gender equality in this domain, it is crucial to implement comprehensive and inclusive methodologies and strategies, including gender-responsive policies and inclusive decision-making processes. A practical approach to achieving gender equity and equality addresses the inequalities in low-carbon energy systems. The Gender Expert Group recognizes that gender transformation is essential in accelerating gender equality by challenging and addressing unequal gender relations. Its ultimate goal is to promote shared power, control of resources, decision-making, and support for women's empowerment. A gender-transformative approach not only focuses on the visible signs of gender inequality, such as lack of access, but also addresses its underlying causes, which include sociocultural norms, discriminatory legal provisions, and social systems that perpetuate inequality (GGKP, Sohna Ngum, Luisa Kim, WORKING PAPER: POWERING A GENDER-JUST ENERGY TRANSITION, GGKP Expert Group on Gender 2022).

Adopting a grassroots approach that centers on the needs of the most marginalized stakeholders and acknowledges various forms of discrimination based not only on gender but also on age, socioeconomic status, and ethnicity is crucial for achieving a fair transition. This approach has the potential to tackle the underlying causes of gender inequality within society by reshaping harmful gender roles, norms, and power dynamics, ultimately contributing to the advancement of a comprehensive agenda for gender equality, diversity, and inclusivity in the workplace. As highlighted by the Green Growth Knowledge Partnership, an intersectional view of energy transitions draws attention to overlapping inequalities in addressing climate change by implementing low-carbon energy technologies (GGKP 2023).

Energy justice is centered around enhancing energy accessibility and creating new employment and economic prospects within the sustainable energy sector. This approach seeks to diminish poverty and enhance livelihoods by comprehending local circumstances, connecting income-generating activities with poverty reduction, and advocating for the inclusion of women (Tucho 2019). Energy justice underscores the significance of addressing social concerns such as accessibility, affordability, distribution, and the energy needs of individuals in energy policies, particularly in addressing energy poverty (Müller and Neuman 2021).

Furthermore, it aims to recognize and assess areas where injustice is prevalent, which segments of society are disregarded, and what measures exist to rectify these injustices (Jenkins, McCauley and Heffron 2016).

Human Rights-based Approach

Energy access is often perceived as a charity, yet it is fundamentally a human right. Adopting a rights-based approach rooted in global human rights norms emphasizes the need to advocate for and protect the rights of energy users. The Sustainable Energy for All Initiative, launched in 2011 by the UN Secretary-General, underscores the commitment to achieving universal access to modern and renewable energy services by 2030.

According to this initiative, individuals have a legal right to essential energy services, highlighting the global imperative for "universal access to modern energy services." Prioritizing energy access rights ensures equitable access for women and marginalized groups. As duty bearers, the international community and states must protect and uphold these rights, supporting individuals in realizing their entitlements.

Theory of Change and Intersectionality

An alternative approach rejects portraying women solely as victims of climate change, acknowledging their agency as resilient individuals capable of driving change and innovation in the renewable energy sector. This shift moves beyond victimization, positioning women as proactive agents of change rather than passive recipients of energy solutions (Huyer, 2016). The USAID and UICN Thematic Energy Brief Series highlight women's roles as entrepreneurs, innovators, and decision-makers in Africa's energy sector, emphasizing their contributions beyond consumption. Recognizing women's pivotal role in the sector creates economic opportunities for both genders.

Gender encompasses a broad spectrum of identities beyond traditional binaries. While focusing on women's roles in achieving a gender-equitable energy transition, it is crucial to address the intersectional challenges faced by marginalized women, who often experience more significant time and labor constraints. Research shows that women in poverty face barriers in committee participation and experience poorer health outcomes. Older women, facing compounded disadvantages of ageism and disability, also encounter discrimination, affecting their economic and social outcomes.

In summary, promoting gender equality in the energy sector involves recognizing women as active agents of change and addressing the diverse needs of marginalized groups. This approach enhances economic prospects and social inclusion, contributing to sustainable development goals.

3. Gender-just energy transition policy and legal framework

Defining a gender-just energy transition is essential before examining the existing legal framework. As advocated by UN Women and the UN Environment, a gender-responsive energy policy identifies and addresses gender gaps, promotes women's participation in decision-making, and tackles gender issues in the energy sector (UNDP, UN Women 2017). The International Labour Organization (ILO) emphasizes that a just transition must encompass all genders, especially those facing multiple forms of discrimination, to achieve transformative gender equality (ILO, Just Transition Policy Brief Gender equality, labour and a just transition for all 2022).

Despite progress, gender-specific considerations in climate change were introduced relatively late in the UN Framework Convention on Climate Change. Recent COPs, including COP 28, have focused on reviewing gender-related commitments, highlighting slow integration of gender equality in global climate actions.

While Sustainable Development Goal 7 (SDG7) aims for universal access to affordable, reliable, and sustainable energy, it lacks specific gender-related targets identified by UN Women among the seven SDGs lacking gender-specific indicators. Aligning transition and equality agendas is crucial. However, current energy policies like the Green Deal often overlook gender considerations, lacking gender impact assessments and disaggregated data for addressing gender inequalities within SDG7 interventions.

Women bear disproportionate impacts on energy production, distribution, and consumption due to challenges in accessing resources and managing energy costs. This disparity contributes to higher poverty rates among female-headed households and exacerbates energy poverty, affecting women's health, livelihoods, and unpaid care responsibilities. Establishing fair transition frameworks aligned with global labor standards is critical to reducing these disparities, as highlighted in the GGKP Gender Report.

Legal frameworks play a crucial role in ensuring equitable distribution of benefits from transitioning to renewable energy, especially among vulnerable communities and marginalized groups.

The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)

The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) is one of the most extensively ratified human rights treaties. Notably, it encompasses explicit provisions regarding equal access to electricity and modern energy services, which are to be fully integrated as envisioned by the convention. These provisions are outlined in Article 14 on Rural Women of the Convention, which focuses on the distinct disparities experienced by rural women (UNWomen, The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) 1979).

Implementation of the Paris Agreement and its Gender Action Plan for all parties

The 2015 Paris Agreement on climate change emphasizes ensuring a fair transition for the workforce and creating high-quality employment opportunities. Nationally Determined Contributions (NDCs) are climate action plans that countries commit to under the agreement, outlining goals for reducing emissions and addressing the impacts of climate change. More than 100 countries have updated their NDCs, with a growing focus on integrating gender perspectives into crucial policy areas and industries, as outlined in the UNDP report "Advancing Gender Equality in NDCs: Progress and Ambitions (UNDP, Advancing Gender Equality in NDCs: Progress and Ambitions 2023)."

ECOWAS Policy for Gender Mainstreaming in Energy Access

The ECOWAS Policy is designed to tackle gender-specific challenges associated with energy poverty in the region. It equips policy-makers with pertinent indicators and compelling rationale to ensure that energy initiatives are aligned with principles of gender equality. The policy endeavors to employ a gender mainstreaming framework to assist Energy Ministries in reaching their energy access goals while also harnessing the potential of women. Its primary aim is to attain universal energy access in the ECOWAS Region by 2030, as detailed in the Policy Implementation Plan.

4. Mainstreaming Gender-transformative Interventions in Energy-Related and Climate Efforts Protection Projects: The Case of the Integrated Water Resources Management Program Phase II (PGIRE II) Organization for the Development of the Senegal River (OMVS) (2014-2023)

The PGIRE Project Phase II (2014-2023), under the leadership of OMVS, aimed to alleviate poverty and marginalization in the Senegalese River Basin by providing reliable renewable energy sources. Gender mainstreaming in PGIRE's project activities primarily targeted liquid biofuels and pico hydro initiatives. Regrettably, the gender strategy did not incorporate a baseline survey due to insufficient funds. Nevertheless, we relied on periodic household surveys and robust monitoring and evaluation of the activities to ensure the integration of gender considerations across the project's components. By employing a result-based management framework, along with a theory of change and intersectionality, we adopted a comprehensive and integrated approach that prioritized the needs of women, men, and other vulnerable populations in the Senegalese River Basin, thereby promoting social inclusion and equity within transboundary water management.

In our endeavors, we have developed and implemented strategies to manage gender and climate change initiatives effectively. These strategies enable us to address the link between gender equality and environmental sustainability, leading to the following outcomes:

1. Empowering women to adapt to climate change by promoting and distributing improved cookstoves.
2. Women are pivotal in advocating for reforestation, family agro-sylva-pastoralism, and sustainable gardening to access carbon funds, and they are pivotal in promoting agricultural practices that combat soil erosion.
3. Implementing microcredit programs to encourage the utilization of "typha" as an alternative energy source, achieved through training women in the carbonization of *Typha australis* using "3 barrels" technology.
4. Providing women with training in composting to restore and enhance degraded land and reforestation efforts.
5. Engaging women in integrated community demonstrations and action research in fields related to adapting to and increasing resilience to the impacts of climate change.

5. Barriers and Challenges and Barriers for Gender Mainstreaming in The Energy Transition

Despite the Paris Agreement's mandate to integrate gender equality considerations into just transition policies and initiatives, persistent barriers and gender gaps continue to be observed. While the significance of gender mainstreaming is acknowledged, numerous challenges and barriers hinder the implementation of gender-responsive infrastructure projects in Asia and the Pacific. The challenges encompass inadequate gender-disaggregated data, limited stakeholder awareness and capacity, lack of gender-responsive budgeting, and institutional barriers within project planning and implementation processes. Overcoming these challenges is not a task for one entity but necessitates cooperation among governments, development organizations, civil society, and other stakeholders. It also entails the integration of gender mainstreaming frameworks and tools into project planning and evaluation processes.

Unpaid Care Labour

During the 68th session of the Commission on the Status of Women, it was emphasized that the disproportionate burden of unpaid care work places women at an economic disadvantage. This is

because women frequently assume the primary caregiving role within households, leading to restricted participation in the workforce and heightened economic vulnerability (UNWomen, 68th session of the Commission on the Status of Women, Gender and the Energy Transition: the Hidden Face of Women in Energy Poverty, an in-depth analysis 2024). It is not just a matter of women's economic empowerment, but also a societal issue. The disproportionate burden of unpaid care work on women places them at an economic disadvantage, leading to restricted participation in the workforce and heightened economic vulnerability. It is crucial to balance caregiving responsibilities across genders to bolster women's career advancement, alleviate the financial strain caused by the high cost of living, and narrow the gender pay and care gaps. This shift in societal norms and expectations is not just desirable, but essential for a more equitable and sustainable future.

Limited availability of Gender Disaggregated data

The absence of sex-disaggregated data and gender statistics, particularly in developing nations, presents a significant challenge. It is crucial to systematically collect this data to track progress in achieving universal access to energy services. The lack of this data obstructs effective policymaking and future planning efforts. It is essential to prioritize funding initiatives with a gender perspective to expedite progress towards gender equality. All proposed policies should be subject to mandatory gender impact assessments, and gender-disaggregated data should be collected and reported. Monitoring this data at various levels will allow for an assessment of the impact of the energy transition on women. This approach will facilitate more effective and fair interventions, ultimately empowering women in sustainable energy solutions.

Inadequate Comprehension of the notion of Gender Mainstreaming

Gender mainstreaming is often poorly understood as a concept and is fragmented across different ministries. When budget cuts occur, gender mainstreaming programs are often discontinued. Additionally, having women represented in decision-making is insufficient to ensure adequate progress without proper training and capacity building.

In the realms of sustainability and management, the limited participation of women hinders progress. Gender differences are often overlooked in policy and decision-making, perpetuating discriminatory norms and inequalities by failing to address underlying barriers. Capacity building in this area should be made compulsory.

Gendered access and benefit from renewable energy systems

The report encompasses a range of literary works that demonstrate how both men and women experience advantages from emerging energy sources. For example, an examination of rural Peru reveals that introducing renewable electrification has increased leisure time for men (Aristizábal, Baldor and Lillo 2015). At the same time, women tend to utilize their additional free time to contribute to the family's income or attend to household duties. This highlights the enduring influence of social norms and gender-based divisions of labor despite the integration of new energy sources.

The study shows that renewable energy sources may offer women opportunities to broaden their livelihood options, but social norms and contextual factors influence their participation in other work areas. Energy transitions can sometimes transfer inequalities rather than eradicate them, increasing women's workloads. The implementation of solar and biofuel energy has notably lessened the workload of women by minimizing activities like cooking and gathering firewood, thus enabling them to dedicate daylight hours to other pursuits such as participating in local communities and seeking alternative forms of employment, there are instances where women's responsibilities have

transitioned from one task, like cooking, to another, such as tending to livestock (Aristizábal, Baldor and Lillo 2015).

Land Grabbing

The adoption of new energy sources has the potential to lead to land grabbing, presenting a significant challenge for rural communities. The Intersectionality and Energy Transitions report highlights that introducing clean energy sources, such as hydropower developments, large-scale solar energy projects, biofuel plantations, and wind power developments, often results in land loss and displacement. This is primarily due to the predominant focus on environmental benefits at the expense of community well-being and interests within the discourse surrounding these initiatives. Forced displacement and resettlement also have gendered aspects, as men tend to find new jobs more quickly in the resettled land than women during such a transition to a market economy. Consequently, this increased women's dependency on men after the hydropower development (Hill, et al. 2017).

Social Cultural Norms

Gender considerations in corporate energy analyses are often overlooked, yet recent trends show energy companies recognizing the benefits of gender equality and diversity. Studies indicate that greater gender diversity correlates with improved business performance and women's empowerment (ENERGIA, The ENERGIA Gender and Energy Research Programme 2019a).

Acknowledging the resilience of female entrepreneurs is crucial, given the significant obstacles they face compared to their male counterparts. These challenges include limited access to information on emerging energy technologies, inadequate business and technical education in renewables, and difficulties accessing credit and financial services. Gender biases persist in many regions, reinforcing stereotypes that energy technology ventures are male-dominated while women are steered towards less lucrative micro-enterprises.

To address these issues, project managers must prioritize equal training opportunities and challenge stereotypes in the energy industry. Mentorship programs can develop women's business management skills, while improving access to microcredit and loans can facilitate their transition from informal to formal sector enterprises. This empowerment can enable women to enter new energy sectors such as efficient stove production, solar home products, power system management, biogas digesters, and biodiesel fuels production.

Gender Technological and Pay Gap

The UN Women Gender Snapshot of 2023 highlights significant disparities: women constitute only 22% of the energy sector workforce and 32% in renewable energy, with women accounting for just 17% of inventors in international patents (DESA, Progress on the Sustainable Development Goals: The gender snapshot 2023). Despite these gaps, the shift to clean energy presents an opportunity to address inequalities by providing women access to technical training, skills development, and leadership roles. In renewable energy, women make up 32% of the workforce, primarily in administrative roles, compared to 25% in the broader energy sector (IRENA, Renewable energy: A gender perspective, International Renewable Energy Agency 2019). However, challenges persist, with men more likely to benefit from energy interventions targeting productive use due to the smaller size of women-led businesses and their lower electricity consumption (ENERGIA, The ENERGIA Gender and Energy Research Programme 2019a). Achieving gender equality in the energy industry requires a deeper understanding of contextual barriers and targeted support for women entering the formal sector.

Recommendations for Sustainable, Inclusive, and Gender-Transformative Development Policies.

In African development, addressing gender inequalities and discrimination is crucial for achieving social progress and economic growth. To eliminate poverty for all women and girls by 2030, it is essential to focus on gender disparities and implement gender-responsive social protection. The energy transition outlined in The Intersection report is influenced by technical, economic, political, and socio-cultural factors. Overcoming institutional barriers and engaging diverse stakeholders, including men and boys, are critical for expediting progress by 2030. Neglecting to prioritize SDG 5 poses a significant risk to the entire 2030 Agenda for Sustainable Development.

Good Practice and Lessons Learned

The UN Women and UNDP BRIEF offers guidelines for gender-responsive energy planning and policy development for energy ministries. Essential strategies for promoting gender equality include incorporating gender-responsive baselines, assessments, and audits, establishing accountability frameworks to track gender targets, and involving women in decision-making. It is crucial to adopt a cross-sector and integrated approach involving Energy, Environment, Gender, Finance, and other relevant ministries. This can be accomplished by creating cross-sector committees or task forces and appointing gender focal points with adequate resources and capabilities within energy ministries. Furthermore, evaluating compliance with gender-responsive guidelines should be part of the performance assessment for energy sector staff. Lastly, the participation of gender experts in policy development is vital (UNDP, UN Women 2017).

Universal Access to electricity

Energy poverty poses significant barriers to achieving global sustainability and green growth, especially in the context of gender equality. Women in emerging economies are disproportionately affected by energy poverty compared to men. Consequently, they encounter numerous obstacles in seizing emerging opportunities that could provide energy access to marginalized populations (Pearl-Martinez 2020). Sub-Saharan Africa, the least electrified continent with approximately 600 million people lacking electricity, has one of the least developed policy environments to support energy access (World Bank n.d.). The limited availability of modern energy services places a substantial strain on women and girls, who frequently bear the primary responsibility for household energy tasks in both rural and urban environments. This includes fetching water and preparing meals (GWNET 2019a). Given these gender-specific divisions of labor, the energy requirements and preferences of women and men often vary depending on their respective societal roles and responsibilities. The lack of modern energy services has different impacts on individuals, households, and communities based on gender. For example, rural women and girls spend much time collecting biomass fuels, limiting their access to better opportunities and affecting their health. Additionally, the lack of street lighting in remote areas can make women more vulnerable to violence.

The Sustainable Energy for All Initiative recognizes the significant impact of Africa's lack of energy sources. Approximately 612.6 million Africans do not have access to electricity, and around 850.3 million rely on solid fuels for cooking (TheSEforALLInitiative 2011). Modern household electricity and heat use, such as modern cookstoves and lighting, is often recognized for positively impacting gender equality in rural areas. Small-scale solar systems like solar lanterns can benefit children, women, and poor rural households (Oliver W. and Yi-Chen Hanb n.d.).

Compliance with Gender- Just Transition Legal Frameworks

The assessment of energy policies in East and Southern Africa reveals that more than 60% of the policies consider gender. However, the effective implementation of these policies at the local level is impeded by persistent gender inequalities. The report recommends further efforts to integrate gender considerations into policies and to empower women to assume a leading role in transforming the energy sector. Similarly, in West Africa, conducting thorough gender audits and impact assessments is crucial to demonstrate the significance of these policies to all stakeholders.

Engendering the national energy policies and frameworks (gender expertise in the teams)

An analysis of 192 national energy frameworks across 137 countries revealed that approximately one-third of these frameworks considered gender-related aspects. Most gender-responsive frameworks originated from developing countries, particularly in sub-Saharan Africa. These frameworks tackled concerns about time poverty, energy accessibility, and women's health and overall well-being (Prebble, M. Rojas, A. 2017).

Creating an enabling regulatory environment to support a gender-just energy transition.

In order to advance gender mainstreaming in energy-related sectors, national policies and programs must prioritize creating an enabling environment that supports and empowers women to overcome the barriers they face when pursuing their careers in these traditionally male-dominated fields. This may involve implementing targeted initiatives such as mentorship programs, educational support, and opportunities for leadership development to ensure that women have equal access to and representation in the energy sector.

Ending Energy poverty

An estimated 341 million women and girls will lack electricity by 2030. Universal access could significantly reduce poverty and improve women's health. With just seven years remaining to achieve the 2030 targets, concerted efforts and funding are more necessary than ever. Each step forward, no matter how incremental, brings us closer to a future where gender equality is not just a goal but a reality (UNWomen 2023a). The UN projects that achieving universal electricity access could reduce the number of women and girls in poverty by 185 million by 2050 (DESA, Progress on the Sustainable Development Goals: The gender snapshot 2023). Ensuring everyone can afford clean cooking and energy access also helps advance gender equality. Achieving universal access to efficient, clean cooking by 2030 requires robust policy frameworks and innovative financing, drawing from successful approaches.

Capacity Strengthening

The importance of developing policy tools to promote women's involvement in the energy sector has been emphasized in many studies. About 92% of women in low-income countries are engaged in informal employment, compared to 87% of men (ILO, Women and Men in the Informal Economy: A Statistical Picture (Third Edition) 2018). In lower-middle-income countries, the figures are 83% for women and 85% for men (ILO, Women and Men in the Informal Economy: A Statistical Picture (Third Edition) 2018). The percentage of women in informal employment (55%) exceeds that of men in most countries (ILO, Women and Men in the Informal Economy: A Statistical Picture (Third Edition) 2018). Transitioning women from the informal to the formal economy is hindered by their limited construction and engineering skills, occupational segregation by gender, and employer stereotyping (ESMAP 2018).

Communication and Dissemination

In order to promote effective equality, institutions such as government agencies, companies, civil society, and private and public sectors must collaborate towards a shared objective. Encouraging young women to consider STEM careers as viable options is crucial. This collaborative effort will help address disparities in global education systems and enhance women's visibility in the workforce through training and mentorship programs. The absence of mentorship and gender-inclusive programs at the university level has contributed to the underrepresentation of women in scientific careers and study paths.

Creation of an observatory for data collection

The importance of collecting and sharing data cannot be overstated. It is essential to gather data on indicators such as the prevalence of renewable energy sources, the adoption of electric cars, and the participation of women in the renewable energy sector - both as employees and in leadership roles. Additionally, we should consider establishing a data collection observatory to address the lack of gender-related data.

6. Conclusion

Gender equality is crucial for achieving sustainable economic development in Africa. Throughout this presentation, we've emphasized the critical need for both renewable energy and gender equity in sustainable development. Policies must prioritize gender perspectives to reduce women's vulnerabilities and empower positive community changes. Access to affordable, sustainable energy is crucial for achieving SDG 5 and empowering women and girls. However, energy initiatives must also address broader social and economic factors to avoid perpetuating gender disparities. Integrating gender equality into new energy systems and promoting fairness is essential for a truly equitable transition.

Achieving this requires prioritizing equal opportunities for marginalized groups, including women, youth, the elderly, displaced persons, and individuals with disabilities. Collaboration among governments, development organizations, and civil society is essential to overcome barriers like limited financing access and legal constraints hindering women's participation in energy sectors. Recognizing women's roles and gathering gender-specific data can inform policies that support a fair and inclusive Clean Energy Transition, enhancing economic empowerment.

Gender equality's impact extends beyond energy, which is crucial for economic progress, poverty eradication, and peace. A fair transition to clean energy advances sustainability, empowers women, and fosters societal equality. This comprehensive approach ensures equitable benefits from renewable energy, driving progress for all.

In summary, Africa's sustainable development hinges on promoting gender equality through inclusive, equitable renewable energy initiatives. By implementing gender-sensitive policies and fostering collaboration, we can build a just and sustainable future where everyone thrives.

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