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Untapped Opportunities in Kenya's Clean Energy Ecosystem

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Key messages

- The clean energy sector in Africa is expanding rapidly and offers strong potential for inclusive growth, job creation, and socio-economic transformation.
- Youth and women are central to clean energy innovation but require stronger support in financing, mentorship, skills, and market access to scale effectively.
- Strengthening collaboration, knowledge-sharing, and ecosystem coordination is essential for building inclusive, sustainable, and high-impact clean energy systems.

Introduction

The clean energy sector across Africa is experiencing significant growth and transformation, driven by increasing demand for sustainable energy solutions, climate action commitments, technological advancement, and growing investments from governments, development partners, and the private sector. Across countries, renewable energy technologies such as solar energy, clean cooking solutions, mini-grids, and bioenergy systems are becoming more visible within communities and local markets. Beyond improving energy access, the sector is progressively recognized for its potential to contribute to employment creation, environmental sustainability, economic empowerment, and inclusive development (International Energy Agency, 2022; World Bank, 2023). As Africa continues to seek solutions to energy poverty and unemployment, the clean energy ecosystem presents an important opportunity for long-term socio-economic transformation.

Box 1:
This article is part of the Evidence for Informing Scaling and Impact in Youth and Women-Led Clean Energy Enterprises (EVI-SICEE) in Africa project, funded by IDRC and implemented by a consortium led by the African Centre for Technology Studies (ACTS). It draws on discussions held during a workshop at Chuka University in April 2026, which brought together a diverse range of stakeholders including entrepreneurs, researchers, practitioners, academia, and other actors within the clean energy ecosystem. The sessions featured presentations, panel discussions, and focused group discussions, and the written and oral information compiled from these sessions forms the basis of this comprehensive write-up.

Despite this growing momentum, conversations surrounding the clean energy sector often focus heavily on barriers such as financing gaps, regulatory challenges, and limited market access. While these challenges remain important, it is noted that there are also major untapped opportunities within the sector that deserve equal attention. Opportunities for collaboration, knowledge-sharing, inclusive financing, mentorship, and local innovation continue to expand, yet many actors still operate in isolation. Counties, enterprises, incubators, research institutions, NGOs, and financial actors are undertaking important initiatives, but stronger coordination and ecosystem-building could unlock far greater impact. Studies on innovation systems and sustainable transitions emphasize that collaboration among institutions is critical for enabling innovation, scaling enterprises, and supporting inclusive development (Geels, 2004; Lundvall, 2010). Moving away from siloed approaches toward collective action can strengthen enterprise growth, reduce duplication of efforts, and accelerate sustainable clean energy transitions.

There is a growing role of youth and women within the clean energy ecosystem. Gradually, youth and women are entering the sector as beneficiaries, as entrepreneurs, innovators, distributors, and community mobilizers bringing forward creative and locally relevant solutions. At the same time, there is a strong eagerness for knowledge, mentorship, networking, and practical business support among emerging enterprises. Research on inclusive innovation in Africa argues that empowering local innovators and strengthening grassroots enterprises are essential for ensuring that innovation processes respond to local needs and generate broader socio-economic benefits (Heeks et al., 2014; Foster & Heeks, 2013).

The future of clean energy in Africa therefore lies not only in technological innovation, but also in building inclusive ecosystems that support learning, partnerships, collaboration, and shared growth. Strengthening these support systems can help local enterprises transition from small informal initiatives into scalable and impactful businesses capable of driving meaningful social and economic change.

Collaboration as an Untapped Opportunity

Although significant efforts are being undertaken within the clean energy sector, many actors still continue to operate in silos. Counties, enterprises, incubators, NGOs, researchers, universities, financiers, and private sector organizations are often implementing related activities independently, with limited coordination and interaction. This fragmentation sometimes leads to duplication of efforts, inefficient use of resources, weak knowledge-sharing, and missed opportunities for scaling impact. At the same time, there was strong recognition that many institutions are already generating valuable experiences, innovations, and lessons that could benefit the broader ecosystem if shared more intentionally. Regional workshops and ecosystem engagement forums were highlighted as important spaces that demonstrate the value of collective learning, networking, and cross-institutional engagement in strengthening the clean energy sector.

We note that stronger collaboration presents a major untapped opportunity for accelerating inclusive clean energy transitions. Participants noted that counties can work more closely with enterprises to pilot and localize clean energy solutions that respond to community needs, while universities and research institutions can support innovation validation, evidence generation, and technical learning. NGOs, incubators, and development organizations were identified as important intermediaries capable of linking entrepreneurs to mentorship, financing opportunities, markets, and capacity-building support. In addition, private sector partnerships were viewed as critical for strengthening commercialization pathways and scaling promising innovations more rapidly. The overall emphasis was that building connected ecosystems based on collaboration, shared learning, and coordinated action can help maximize impact, strengthen enterprise growth, and create more sustainable and inclusive clean energy systems across the region.

The Hidden Financing Opportunities in the Sector

Access to finance remains one of the most commonly cited challenges among clean energy enterprises, particularly for youth- and women-led businesses. However, participants noted that while many entrepreneurs perceive financing opportunities as unavailable or inaccessible, there are actually numerous funding mechanisms emerging within the clean energy and climate innovation space. The challenge often lies in limited awareness, preparedness, and accessibility. Many enterprises are not fully informed about the different financing options available to them, including grants and innovation challenges, green financing facilities, climate funds, SACCOs and microfinance institutions, incubation-linked seed funding, crowdfunding opportunities, county enterprise funds, and youth and women enterprise support programmes. Participants observed that despite the increasing availability of climate and impact-focused financing, many local enterprises still struggle to connect with these opportunities.

There is a need to strengthen enterprise preparedness and investment readiness in order to unlock these financing opportunities more effectively. Many small enterprises and startups require greater support in areas such as financial literacy, proposal writing, record-keeping, business planning, and pitching skills. In many cases, entrepreneurs possess promising ideas and innovative solutions but lack the technical and business development capacity needed to attract investors and funding partners. At the same time, there was recognition that investors and development partners are increasingly showing interest in climate-smart, socially impactful, and inclusive enterprises, particularly those led by youth and women.

Strengthening mentorship programmes, incubation support, financial training, and networking platforms was therefore viewed as critical in helping enterprises become more visible, credible, and investment-ready within the growing clean energy ecosystem.

The Growing Hunger for Knowledge and Learning

There is a strong and growing demand for knowledge, mentorship, and practical learning within the clean energy ecosystem. Entrepreneurs have over and over expressed eagerness to grow their businesses, and also to continuously learn, connect with others, and improve their understanding of the sector. Workshops, incubation programmes, and ecosystem engagement activities were identified as important spaces where entrepreneurs gain exposure, ask questions, exchange experiences, and build confidence. Participants particularly noted that youth and women entrepreneurs value environments where they can freely engage with peers, mentors, experts, and institutions without fear of judgment or exclusion. The discussions further highlighted that many emerging enterprises are actively seeking practical and applicable knowledge that directly responds to their day-to-day business realities.

Areas where demand for knowledge was observed to be increasing included business formalization, market access, product certification, digital marketing, scaling enterprises, technology innovation, and financial management. Participants emphasized that learning spaces play a critical role in reducing fear and uncertainty surrounding compliance, regulation, and formal business systems. Peer learning, mentorship, and practical engagement were viewed as increasingly powerful tools for enterprise growth, particularly for startups and informal businesses navigating unfamiliar systems. Overall, the discussions underscored that within the clean energy ecosystem, knowledge-sharing is becoming just as valuable as financing in supporting enterprise sustainability, confidence, and long-term growth.

Building Inclusive Ecosystems for Women- and Youth-Led Innovation

Women and youth should no longer be viewed only as beneficiaries within the clean energy sector, but also as innovators, entrepreneurs, and active contributors to sustainable development. Local enterprises, particularly those rooted within communities, often possess a deeper understanding of local energy needs, consumer realities, and socio-economic challenges. As a result, they are well positioned to develop context-specific and socially responsive solutions that can accelerate clean energy access and adoption. The discussions highlighted that inclusive innovation is critical for ensuring that the energy transition process leaves no one behind and that opportunities within the sector are accessible to diverse groups within society.

To strengthen inclusive innovation, participants emphasized the importance of targeted mentorship, incubation support, and creating safe and enabling business environments for women and youth entrepreneurs. Discussions highlighted the need for support systems that go beyond technical training to include confidence-building, networking opportunities, access to markets, and long-term enterprise development support. Community-based innovation approaches were also viewed as particularly important because they promote local ownership, participation, and sustainability of clean energy solutions. Overall, participants stressed that the future of the clean energy sector will depend not only on technological advancement, but also on the ability of institutions and ecosystems to intentionally support inclusive participation, local innovation, and collaborative impact.

Conclusion

Discussions throughout the workshop demonstrated that although regulatory, financial, and structural challenges continue to affect clean energy enterprises, the opportunities emerging within the sector are far greater than the barriers.

Across the region, there is growing momentum around clean energy entrepreneurship, increasing participation of youth and women, expanding policy attention, and stronger interest from development partners, investors, and support institutions. Participants acknowledged that the sector holds significant potential not only for improving energy access, but also for creating employment, strengthening local innovation, supporting climate action, and improving livelihoods within communities.

The discussions further highlighted that collaboration, knowledge-sharing, and inclusive financing will play a central role in unlocking transformative growth within the clean energy ecosystem. Entrepreneurs are increasingly seeking mentorship, networks, practical skills, and opportunities to connect with markets and financing actors. At the same time, institutions supporting the sector including counties, NGOs, incubators, universities, financiers, and private sector actors, were encouraged to move beyond isolated interventions and build stronger collaborative ecosystems. Participants emphasized that sustainable impact can be achieved more effectively when actors learn together, align efforts, share experiences, and collectively respond to emerging challenges facing enterprises and communities.

Overall, the workshop reinforced the idea that the future of clean energy development in the region will depend not only on technological advancement, but also on inclusive and connected ecosystems that empower local enterprises and communities. Strengthening partnerships and supporting youth- and women-led enterprises can accelerate innovation, improve sustainability, and ensure that clean energy transitions contribute meaningfully to broader social and economic development goals.

Key Closing reflections

- The opportunities within the clean energy sector are greater than the existing barriers.
- Collaboration and ecosystem-building are essential for maximizing impact and reducing duplication of efforts.
- Knowledge-sharing, mentorship, and practical learning are becoming as important as financing for enterprise growth.
- Inclusive financing and targeted support systems are necessary for strengthening youth- and women-led enterprises.
- Institutions should move away from siloed approaches and strengthen partnerships across sectors and regions.
- Supporting local innovation and community-based enterprises can accelerate sustainable energy access and socio-economic transformation.
- Stronger coordination between governments, enterprises, researchers, financiers, and development organizations can create more sustainable and inclusive clean energy ecosystems.

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