Evidence for Informing Scaling and Impact in Youth and Women-Led Clean Energy Enterprises (EVI-SICEE) in Africa

Project team/Stakeholders Learning workshop Report

6th – 7th February 2025

Venue, ICIPE campus, Duduville, Kasarani, Nairobi

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List of acronyms and abbreviations

ACTS	African Centre for Technology Studies
BIHs	Business Incubation Hubs
CE	Clean Energy
CEE	Clean Energy Enterprises/entrepreneurship
CIE	Climate innovation and entrepreneurship
EDI	Equality, Diversity, and Inclusion
EVI-SICEE	Evidence for Information Scaling and Impact in Youth and Women-led Clean Energy Enterprises
ISAC	Improved Stoves Association of Kenya
FGSR	Faculty of Graduate Studies and Research
GAD	Gender and Development
GESI	Gender Equality and Social Inclusion
ICS	Improved Cookstoves
IDRC	International Development Research Centre
KCIC	Kenya Climate Innovation Centre
KIIs	Key Informants' Interviews
LPG	Liquefied Petroleum Gas
MUBs	Makerere University Business School
PI	Principal Investigator
RE/CE	Renewable Energy/Clean Energy
REC	Research Ethics Committee
SMEs	Small and Medium Enterprises
SSA	Sub–Saharan Africa
STEM	Science, Technology, Engineering and Mathematics
ToC	Theory of Change /Impact pathway
WP	Work Package
KYEF	Kenya Youth Enterprise Fund
UJ	University of Johannesburg
UNCST	Uganda National Council for Science and Technology
UWEAL	Uganda Women Entrepreneurs Association Limited
WAD	Women and Development
WID	Women in Development
WP	Work Package

A. BACKGROUND

The EVI-SICEE project has been under implementation since January 2024. The motivation behind the project is that the informal, small and medium enterprises (SMEs) that drive economic development in many African countries comprise of a significant population of women and youth either as business entrepreneurs or employees. This fact makes women and youth more vulnerable to external shocks like the global economic crisis and the impacts of climate change that do not spare this informal sector. Further, structural and social-cultural barriers limit their capabilities to access finance, markets and training to grow their businesses/enterprises compared to adult men. The impact is confounded by the African challenge of burgeoning youth populations requiring formal or informal employment. Our project will engage in joined-up action research involving actors in the climate innovation/entrepreneurship ecosystem (CIE) to provide evidence for informing scaling of promising youth and women-led clean energy enterprises for their transformative impact in the African context. The overall objective is to understand within the CIE context the systemic factors that enhance or constrain women and youth' access to entrepreneurial opportunities in clean energy innovation, and how the promising best practices can be scaled up for impact.

The project's transdisciplinary approach to its implementation provides for co-generation of knowledge towards an inclusive and impactful clean energy innovation and entrepreneurship. The ultimate goal is to generate contextualized evidence that is relevant for inclusive clean energy transition through youth and women led enterprises. Towards this end, the stakeholders and project team learning workshop builds into the qualitative data that is being generated using various methodological tools.

The two days' workshop brought together both the project team from the participating countries and the clean energy ecosystem stakeholders, drawn from the larger stakeholders' group that participated in the survey and key informant interviews (Annex 2).

B. OBJECTIVES OF THE STAKEHOLDERS AND PROJECT TEAM LEARNING WORKSHOP

The workshop created an interactive space for both the project team from the four countries and the clean energy (CE) ecosystem stakeholders in Kenya to deliberate on the project's outputs and co-create relevant knowledge aimed at positively shaping the optimization and scaling of youth- and women-led clean energy enterprises and business models. The Project's Advisory Board (Annex 3) participated in providing requisite guidance in alignment with the deliberations that took place over the two days.

The first day was dedicated to deliberations among the project team members, including representatives from the four countries and the Advisory Board. The second day involved broader participation, incorporating selected stakeholders from Kenya's clean energy ecosystem who had been engaged in the fieldwork.

Specifically, the learning workshop was designed to achieve the following objectives.

a) To reflect on the project's progress, including what had worked, what had not worked, and the lessons learned from the diverse experiences during the first year of its implementation.
b) To present findings from Kenya's scoping study, the survey, and the key informant interviews (KIIs).
c) To present a preliminary analysis of data from Kenya, generating evidence on system-level dynamics that contribute to the success or failure of women and youth in accessing business opportunities within the CE ecosystem.
d) To enable stakeholders on Day 2 to validate the study findings and collaboratively develop future scenarios for scaling youth- and women-led clean energy enterprises in Kenya and beyond

C. THE WORKSHOP FORMAT

The workshop was held at ICIPE campus, Duduville, Kasarani, Nairobi, which provided a conducive environment for collaboration and engagement. The venue was equipped with the necessary technical facilities to support both in-person and virtual participation, including audiovisual equipment for presentations and recordings. Logistics, such as catering and transportation, were organized to ensure the smooth running of the event and the comfort of all participants. The workshop was highly interactive, focusing primarily on the project's progress and key findings. All sessions incorporated elements of short presentations followed by in-depth discussions. The fellows and students were also given an opportunity to share their work through poster presentations and received feedback during various breaks. A few participants joined the workshop online, and to facilitate their participation, a Zoom link was shared in advance. All sessions were recorded to ensure comprehensive documentation of the ideas deliberated upon and to assist in reviewing the project's next steps. See Annex I for the detailed workshop programme.

D. WORKSHOP DELIBERATIONS

The workshop brought together 60 participants, 35 of which were female.

1. OPENING SESSION

1.1. Opening and welcome Remarks from Africa Centre for Technology Studies (ACTS)

Tom Ogada welcomed participants on behalf of ACTS, and acknowledged the role of key contributors, including Paul Okwi from the International Development Research Centre, project researchers, and distinguished guests, in the clean energy transition. He made insightful reflections on the role of energy in sustainable development. He further highlighted ACTS' mission, including key initiatives in solar, biomass, AI, agriculture, and green innovation aligning with Africa's just energy transition. He finally declared the two days' workshop officially opened. He encouraged all participants to engage- over the next two days- in meaningful discussions to strengthen collaboration and drive sustainable solutions across the continent. His message also carried warm New Year wishes, fostering an optimistic tone for the sessions ahead.

Figure 1: Prof. Ogada, ACTS Executive Director, delivering his welcome remarks

1.2. Opening and welcome Remarks from International Development Research Centre (IDRC)

Dr. Paul Okwi, who is the EVI-SICEE project lead from IDRC, welcomed the participants and highlighted the significance of collaborative efforts in the IDRC projects aimed at supporting businesses and enterprises. He noted that IDRC is committed to promoting development in the Global South and recognizes that generating context-specific information through stakeholder collaboration is crucial. This approach seeks to enhance understanding and elevate the voices of women and youth within the energy sector.

Figure 2: Dr. Okwi, IDRC, delivering his welcome address

Paul also highlighted Kenya's current clean energy landscape, which serves as a model for broader adoption of renewable energy solutions. He added that, while previous studies have identified opportunities and challenges for women and youth in the clean energy ecosystem, there has been a lack of empirical evidence on the comprehensive dynamics of policy implementation. EVI-SICEE project, he noted aims to bridge that gap by providing valuable insights to inform public and private policy decisions, particularly in advancing gender-transformative and sustainable energy transition processes. He concluded by expressing gratitude to all participants and partners for their contributions to this important initiative.

1.3. Participants' expectations

Participants were asked to write their workshop expectations on the sticky notes provided during the introduction session. Below is a summary of their responses, organized around key sub-themes:

i. **Knowledge Sharing & Learning:** Participants expressed a strong desire to deepen their understanding on clean energy entrepreneurship (CEE) by exploring the research methodologies and best practices influencing CEE in Africa. They hoped to gain clarity on project findings, the significance of the data collected, and implications for future interventions. Additionally, participants wanted to understand how evidence gathered so far could inform policy and identify opportunities for further research, policy integration, and entrepreneurship promotion.

ii. **Networking & Collaboration:** A common expectation was the opportunity to connect with peers, experts, and other key stakeholders in the clean energy sector. Participants hoped the workshop would facilitate discussions around viable partnerships and collaborations, particularly in scaling up CEE initiatives to enhance local, regional and intra-African trade. They also sought to explore how country-specific experiences could be leveraged for shared learning and synergies across different regions.

iii. **Gender and Youth Inclusion in Clean Energy:** Participants emphasized the need to understand how clean energy innovations impact women and youth, as well as the role of incubation programs in supporting their entrepreneurial activities. They sought clarity on how Gender Equality and Social Inclusion (GESI) issues could be addressed in the energy transition to ensure that no one is left behind. Additionally, they wanted to learn about opportunities in CEE and how to link women and youth to these opportunities for economic empowerment.

iv. **Policy & Sustainable Interventions:** Participants were keen on exploring interventions that would elevate women's and youth's participation in the economy through CEE. They wanted to understand how local solutions could be integrated to accelerate the energy transition and how emergency social policies could be incorporated into this process. Furthermore, they were eager to learn about key gaps in the clean energy sector and strategies for bridging these gaps to ensure a just and sustainable transition.

1.4. EVI-SICEE Project objectives: Revisiting the theory of change/impact pathway and project work plan

The project's principal investigator (PI), Ann Kingiri, offered a detailed overview of the project, highlighting the main milestones reached to date. She underscored the connection between the project's goals and work packages, emphasizing the main components such as a) research and embedded capacity building and b) business incubation activities and related entrepreneurs' capabilities building. These cross-cutting initiatives aim to promote transdisciplinary knowledge exchange and learning, while also guaranteeing that clean energy innovations are sustainable and scalable. The project further creates a platform for training, peer learning, and enterprise development by combining business incubation with community hubs, ensuring that entrepreneurs and local communities both benefit from practical, evidence-based interventions.

Figure 3: Ann Kingiri presenting on the EVI-SICEE project objectives

The project's approach to capacity development is multifaceted, engaging master's and PhD fellows to contribute to knowledge through their research and contribute to the development of an inclusive business innovation ecosystem. Furthermore, workshops and training sessions at both the national and local levels are designed to boost awareness of gender-responsive climate action, innovation, and entrepreneurship. The project includes policy dialogues, knowledge exchange visits, and benchmarking opportunities for selected entrepreneurs to enhance impact and promote cross-learning and collaboration. It is also essential to conduct awareness campaigns that transform gender perceptions and utilize a variety of platforms (e.g., print, audiovisual media, social media, virtual engagements) in order to achieve wider outreach and sensitization of the target beneficiaries and local communities.

The expected impact of the project is significant, with evidence generated guiding policy and investment decisions that support a gender-transformative and sustainable energy transition. Key expected outcomes comprise expanded cross-county, national, and regional learning opportunities, heightened financial investments, and enhanced stakeholder involvement—especially among women and youth—in the clean energy innovation ecosystem. Furthermore, it is anticipated that jointly developing Clean Energy Enterprises (CEEs) along with innovative business models will increase the potential for empowering youth and women, all while expanding inclusive clean energy solutions. Through context specific evidence, the project is dedicated to promoting enduring, inclusive and sustainable transformation in the realm of clean energy.

1.5. Key address: Kenya Energy Policy ambitions

The key address was delivered by Dr. Faith Odongo, Director Renewable Energy, State Department for Energy, Ministry of Energy and Petroleum, Kenya. Her address focused on Kenya's Energy Policy Draft, which is currently under review (as of February 2025). She highlighted the importance of broad stakeholder participation in shaping the final policy and emphasized key areas that require further deliberation. Her speech underscored the government's commitment to ensuring an inclusive and comprehensive policy that addresses the diverse energy needs of the country.

Odongo outlined the upcoming nationwide participatory forums scheduled for10th –16th March 2025, across various counties. These engagements aim to gather feedback from different stakeholders, including government agencies, private sector players, civil society organizations, and local communities. The consultations are designed to ensure that the final policy reflects the perspectives and needs of all Kenyans, particularly those in underserved and marginalized regions. She highlighted clean energy key focus areas as follows:

Figure 4: Dr. Odongo sharing on Kenya's draft energy policy

Clean cooking and Bioenergy: the draft policy acknowledges the multiple fuels available in the Kenyan market and recognizes the emerging technologies such as the vast solar radiation coupled with innovative new technologies such as phase change materials for thermal storage and Direct Current e-Cooking appliances can be used for solar thermal and solar electric cooking in the country.

Liquefied Petroleum Gas: The challenges include **i**nsufficient common user import facilities for handling bulk LPG; Price volatility; Inadequate legal and regulatory framework; and Inadequate distribution infrastructure for the LPG limiting access. Opportunities include expansion of infrastructure, subsidies for cylinders, the LPG strategy and the growth targets set by the Kenya National Cooking Transition Strategy 2024.

Electric Cooking: The draft policy recognizes the need to increase the population using electric cooking from 1% currently to 10% by 2028. The target is to build a sustainable e-Cooking market which can enable a net-zero transformation by electrifying the majority of cooking energy demand by 2050.

Bioenergy is classified into cooking and heating, road transport, aviation and power generation sectors and emerging uses (Biomethane).

Cooking and Heating resources: With the various challenges and opportunities, the policy direction for cooking and heating includes review oof existing legal and regulatory framework mapping of resources and data collection and enhance measures for developing local value chains for biomass resources.

The low hanging fruit in **Bioenergy and Road Transport** is the development of the bioethanol value chain.

Energy Efficiency and Conservation is identified to be cross cutting across sectors. The policy direction is to enhance coordination, mobilize resources, increase awareness, promote e-mobility and mainstream energy efficiency and conservation in training curricula.

Gender Equality, Diversity and Social Inclusion on Energy (GEDSI) is recognized as key in achieving sustainable development and social justice. The policy direction is to develop a GEDSI strategy and action plan, promote stakeholder collaboration, develop capacity in ministries and stakeholders, mobilize resources for implementing programme, create awareness on GEDSI in the energy sector and Mainstream GEDSI in the Energy monitoring and evaluation framework.

In her presentation, Odongo acknowledged that some aspects of the draft policy sparked intense debate, particularly those related to women, youth, and clean energy enterprises. These discussions

reflected the urgency and significance of addressing these concerns effectively in the final policy. She encouraged active engagement from all stakeholders to ensure that the policy is not only progressive but also practical in addressing Kenya's energy needs. She noted that policy review and implementation is a rigorous process, and that once a policy is enacted, it often takes quite some time before it is reviewed again. She emphasized the significance of active participation at this stage, encouraging participants to seize this opportunity to contribute meaningfully and influence the energy sector.

2. PROJECT IMPLEMENTATION UPDATES

2.1. Uganda- Makerere University Business School (MUBS)

The project implementation in Uganda is led by MUBS, with Dr. Sylvia Aarakit as the project coordinator. Sylvia's report provided an overview of key achievements and milestones attained, highlighting advancements in research, stakeholder engagement, and capacity-building efforts. Key outputs include the following:

- Establishment of a fully constituted research team, hosted at the Faculty of Graduate Studies and Research (FGSR).
- 2 Master's research fellowship awardees:
- Regina Nakawuki research title being *Assessing the role of business models in scaling up women-led clean energy enterprises in Greater Kampala metropolitan***.**
- Hafswa Nakibuuki research title being *Factors influencing market acceptability of clean cooking technologies among women and youth owned enterprises in the informal sector.*
- A scooping study report and the manuscript have been completed, the Final report and a policy brief in pipeline.
- Data collection tool in the form of a survey questionnaire developed and Research Ethics Committee (REC) and Uganda National Council for Science and Technology (UNCST) research clearance being pursued.
- To enhance communication and visibility, the project has been showcased at various energy-related events, such as the Women in Climate Forum, the Renewable Energy Conference (REC 2024), and the Uganda Women Entrepreneurs Association Limited (UWEAL) Conference.
- The team has held 3 project meetings to ensure effective coordination and implementation of activities.

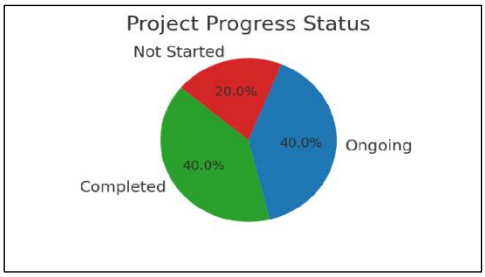

Figure 5: Uganda project progress

The challenges experienced include:

- Approvals from the University takes time – structural challenges- no dedicated office to coordinate such collaborations.
- The team itself is slow in delivering on their tasks due to competing activities.
- Operating on a slim budget also slows down progress.
- Delay in REC/NCST approval process.


Figure 6: Aarakit presenting Uganda progress report

The way forward for the project team

- Prioritize Pending Activities- Pilot the tools as we wait for REC clearance.
- Beef up the team with research assistants to speed up data collection.
- Increase the budget or reduce the geographical coverage for data collection.

- Frequent engagement with the Kenyan team to leverage on their experiences.
- Upcoming milestones are shown in the figure 7 below.

Figure 7: Uganda's upcoming milestones

2.2. Malawi- Mzuzu University

The progress of the project in Mzuzu University- Malawi was presented by the project coordinator, Dr. Chrispin Gogoda. Gogoda pointed out that they encountered challenges while establishing the project at the university, which led to several delays in its implementation. However, he committed to putting more efforts on the project implementation going forward to ensure its success. The current team working on the project consists of Dr Maxton Chitawo in the role of an Advisor, along with team members Lavinia Chikomo, Dorica Chima, Christopher Hara and Dickson Bota. His presentation offered a look at the teams' achievements, obstacles encountered and strategies for guaranteeing the projects' ongoing success.

Figure 8: Chrispin presenting Malawi progress report

Achievements so far:

- Successfully conducted the project kick-off workshop
- Established a dedicated project team to support in the implementation
- Inclusion of student fellows into the research process
- Formation of advisory team to provide strategic guidance
- Initiated the development of scoping study which is currently in progress

The challenges experienced include:

- Delays in administrative and formalization processes at the university processes
- Challenges in onboarding the student and getting an allocation of the best suite supervisor
- Issues related to the formation and coordination of the supervisory team

The way forward for the project team will be:

- Completing the scoping study to guide in the projects' next steps

- Conducting Field work – engaging with key stakeholders in the clean energy space in Malawi and initiating the data collection.
- Start identifying business incubates.

2.3. South Africa- University of Johannesburg

Figure 9: Hanlin presenting the S. Africa progress report

The progress report for South Africa was presented by Prof. Rebeca Hanlin from the University of Johannesburg. Despite initial delays due to formalization issues, the team has made significant efforts to catch up with other partner countries. The report provided an overview of key achievements and milestones thus far, focusing on advancements in research, stakeholder engagement, and capacity-building initiatives.

Status overview of the project

- The first full draft of the Scoping report has been completed (see highlights below).
- A Survey of businesses has been set to begin soon
- Focus will be on a couple of case studies versus scaling support.

The Clean energy sector in South Africa: Highlights

South Africa's energy sector remains heavily reliant on coal, which accounts for over 70% of the country's electricity generation. However, in recent years, there has been a strategic shift towards clean energy, driven by government policies and regulatory frameworks aimed at decarbonizing the energy mix. This transition has resulted in a significant increase in wind power generation, growth in rooftop solar adoption, and the expanding role of Independent Power Producers (IPPs) in supplementing the national grid. These efforts are part of the country's broader commitment to reducing carbon emissions and addressing energy security challenges, particularly in light of persistent electricity shortages and rolling blackouts. While progress is evident, the transition to clean energy remains complex, requiring continuous investment, policy refinement, and infrastructure development. Despite these advancements, several challenges persist within South Africa's Clean Energy Ecosystem (CEE).

- Clean energy adoption is skewed towards urban and middle-class consumers, limiting accessibility for low-income and rural populations.
- South Africa's entrepreneurship and innovation landscape differs from many other African nations, with a more developed National Innovation System (NIS) that shapes the dynamics of energy sector investments and technological advancements.
- The clean energy sector also faces structural and policy-related hurdles, including grid constraints, regulatory barriers, and the need for better financing models to support small and medium-sized enterprises (SMEs) and startups in the sector.

Project next steps:

- Put more focus on finalizing the scoping report, which will provide a comprehensive assessment of the clean energy landscape, including existing initiatives, policy frameworks, and stakeholder engagement efforts.
- Conduct a survey to gather deeper insights into the market potential, barriers, and opportunities within the sector.
- The project team will narrow down specific case studies to examine successful clean energy business models and policy interventions that can inform best practices for scaling sustainable energy solutions across South Africa. These next steps will be crucial in shaping actionable recommendations for advancing clean energy adoption and fostering a more inclusive energy transition.

2.4. Kenya- African Centre for technology Studies (ACTS)

The African Centre for Technology Studies (ACTS) being the project lead is at an advanced stage of the Kenya aspect of the project implementation. The scoping study has been completed, and participants were informed of the emerging findings, packaged in a comprehensive report, and requested to take time to read it. The session's detailed presentations highlighted key findings from the completed surveys and Key Informant Interviews (KIIs). The Kenyan research team is currently focused on finalizing the field work reports. The presentations highlighted a summary of key findings. The quantitative aspect of the findings (survey) was presented by Daniel Musyoka, while the qualitative aspect was presented by Ann Numi.

2.4.1. Clean energy sector and gender dynamics in Kenya- Survey key findings

The findings are informed by a survey involving 1093 participants across 32 counties in Kenya.

Figure 10: Daniel Musyoka presenting the survey findings

The findings show a comprehensive understanding of the clean energy sector in Kenya including:

- The characteristics of entrepreneurs and business owners- demographic and socio-economic profiles.
- The operational and market characteristics of clean energy businesses.
- Perceptions of women and youth regarding systemic factors influencing their participation and growth in the sector.

Most participants interviewed were youth (65%), with the majority (57%) being employed in the CEE. As shown in Fig 11, most women and youth CEE entrepreneurs were engaged in non-technical activities such as selling, supply, and distribution. While their presence in technical activities such as manufacturing, fabrication

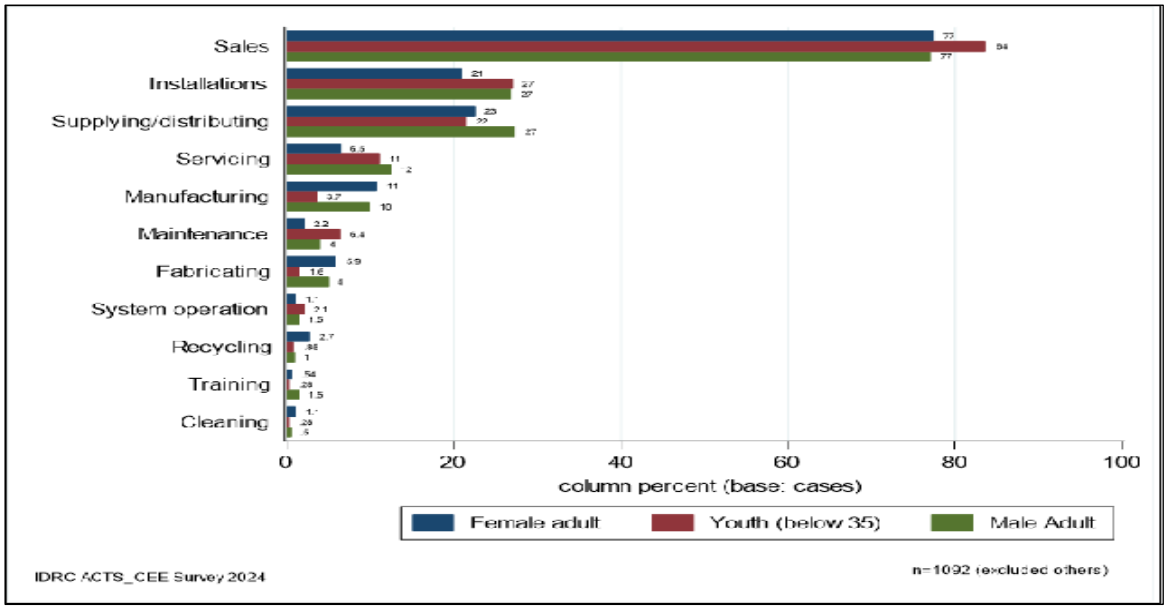

Figure 11: Role of respondents in clean energy business

was minimal. Majority of youth were engaged in solar sector while women entrepreneurs were in clean cooking.

As shown in Fig 12, the majority of women and youth participants were motivated to engage in CEE primarily for its economic benefits, such as income generation. Others were driven by environmental conservation goals, particularly improving access to clean energy. A few participated out of necessity, as they had no alternative livelihood options.

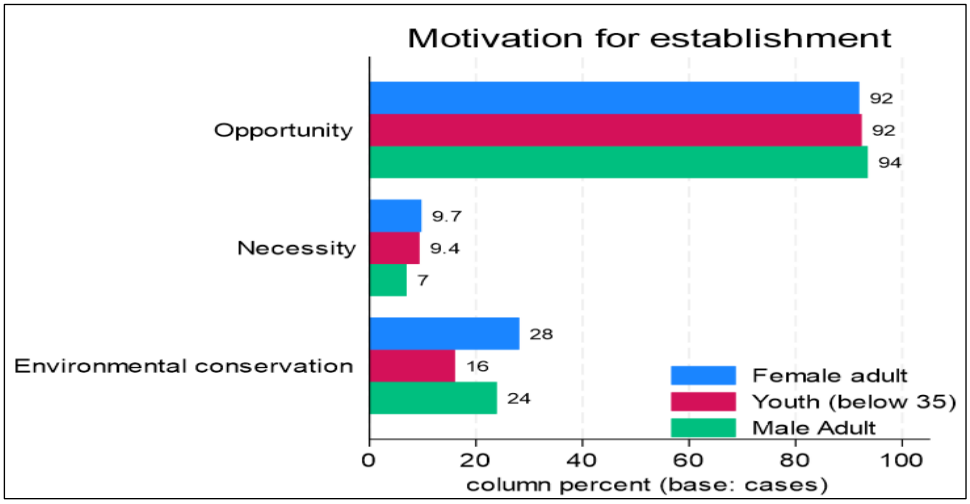

Figure 12: Motivation for business establishment

Other findings:

- Most CEE are engaging in sales and distribution, with 57% owned by either women or youth. Over 80% of the CEEs are micro businesses, and on average have been in existence for over 6 years.
- Only 29% of CEE had previously received business support, with financial and gendered barriers identified as systemic factors limiting women and youth' from accessing to investment opportunities in clean energy innovation/entrepreneurship. To address these challenges, an integrated approach to business support is recommended to unlock these barriers and upgrade, upscale and optimize promising best practices, ultimately fostering inclusive growth in CIE.

2.4.2. Stakeholders' perspectives on systematic factors enhancing scalability and transformative potential of CEE's for youth and women

The Key Informant Interviews (KIIs) conducted as part of this research provided valuable insights into the challenges, and systemic factors influencing the growth and sustainability of youth- and women-led CEEs in Kenya. The interviews engaged a diverse range of actors, including clean energy entrepreneurs, distributors, producers, policymakers and NGOs, to capture their perspectives on the clean energy sector. Three major themes emerged from the collected data. These include motivation to start clean energy businesses, gender dynamics influencing decision-making in clean energy enterprises and business support contributing to success in clean energy enterprises. The following section provides an overview of the KII findings.

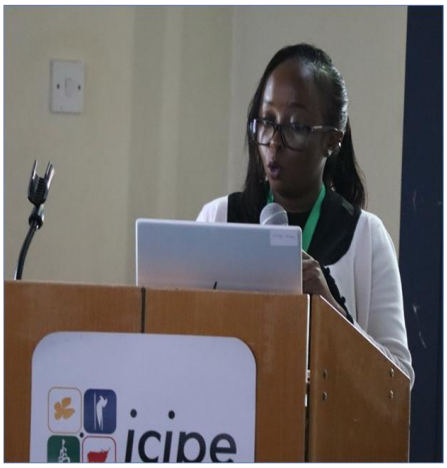

Figure 13: Ann Numi presenting on KII Findings

Motivation to start clean energy businesses

The decision to establish a clean energy business is driven by three primary motivations: economic gain, environmental conservation, and social impact. Insights from KIIs highlight how entrepreneurs balance financial sustainability with broader environmental and social goals.

i. Economic gain and cost savings

For many entrepreneurs, financial benefits were the main driver for entering the clean energy sector. Clean energy solutions not only create profitable business opportunities but also help households save money by providing affordable alternatives to expensive traditional energy sources such as firewood, charcoal, and LPG. Entrepreneurs saw this dual advantage of profitability and cost savings as a strong incentive to invest in clean energy enterprises.

ii. Environmental conservation

A significant number of entrepreneurs were motivated by a desire to protect the environment. They observed the harmful impact of deforestation and pollution caused by firewood and charcoal. By introducing clean energy solutions, they aimed to offer more sustainable alternatives that reduce carbon emissions and minimize environmental degradation. Their businesses serve as a means to promote responsible energy consumption while demonstrating the feasibility of clean energy options.

iii. Social impact and health benefits

Many entrepreneurs saw clean energy businesses as a way to drive positive social change. They were particularly concerned with the negative health effects of traditional cooking methods, which disproportionately affect women due to prolonged exposure to smoke. Additionally, some entrepreneurs viewed clean energy enterprises as a way to create employment opportunities, particularly for youth who might otherwise be at risk of drug abuse and social exclusion. By fostering economic independence and improving health outcomes, clean energy businesses contribute to community resilience and overall well-being.

Gender dynamics influencing decision-making in clean energy enterprises

Gender plays a significant role in shaping decision-making processes within clean energy enterprises, influencing labor distribution, leadership opportunities, and workforce engagement. Results highlight three major sub-themes: gendered division of labor, disparities in leadership and business ownership, and the role of youth in the sector.

i. Gendered division of labor

A clear distinction exists in the roles assigned to men, women, and youth in clean energy businesses. Women are often engaged in tasks that require precision and patience, such as marketing, sales, product assembly, and finishing. Men, on the other hand, are typically assigned physically demanding tasks, including transportation, installation, and production work that involves heavy lifting. While these distinctions reflect traditional gender roles, there is growing recognition of women's capabilities in technical aspects of clean energy production. However, certain biases persist, with some business owners preferring men for fieldwork due to its physically demanding nature.

ii. Gender disparities in leadership and business ownership

Despite their strong contributions, women continue to face significant challenges in securing leadership and management roles within the clean energy sector. Many interviewees noted that women are often perceived as less capable in business management, leading to limited representation in decision-making positions. These lingering biases hinder women's ability to influence strategic decisions and expand their businesses. Addressing these disparities through leadership development programs and mentorship opportunities could foster a more inclusive and equitable business environment.

iii. The role of youth in clean energy enterprises

Youth play a crucial role in clean energy businesses, particularly in technical and production-related tasks such as molding, mixing, and firing products. However, their participation is often hindered by a lack of adequate training and skill development. Additionally, absenteeism due to substance abuse poses a challenge for some enterprises employing young workers. Despite these setbacks, with proper training, mentorship, and workforce development initiatives, young people can significantly contribute to the growth and sustainability of clean energy businesses.

Gender dynamics continue to influence how clean energy enterprises operate, with traditional gender roles shaping labor distribution, leadership opportunities, and workforce participation. While women's contributions in marketing, installation, and technical roles are increasingly recognized, barriers to leadership persist. Similarly, youth engagement in the sector is essential but requires additional training

and mentorship. addressing these challenges through targeted skill development, leadership training, and inclusive hiring practices will be crucial in fostering a more diverse and equitable clean energy sector.

Business support contributing to success in clean energy enterprises

The success of clean energy enterprises in Kenya is strongly influenced by the availability of mentorship, technical training, financial support, and market linkages. Insights from KIIs highlight several critical areas where business support has played a key role in strengthening the sector, particularly for youth- and women-led enterprises.

i. Capacity building and skills development:

- Training programs and capacity-building initiatives have significantly contributed to the growth of clean energy enterprises by equipping entrepreneurs with the necessary skills to establish and manage their businesses. Programs like Women in Sustainable Energy (WISE) have provided targeted training for women and youth, offering courses in solar technology, clean cookstove fabrication, and entrepreneurship. Similarly, the Green Climate Fund (GCF) project has supported women in last-mile distribution and stove liner production, further integrating them into the clean energy value chain.
- The collaboration between the Ministry of Energy and Petroleum & Technical and Vocational Education and Training (TVET) institutions has also played a crucial role in technical training, ensuring that more individuals gain hands-on experience in stove fabrication and biogas system installation. These programs not only help bridge gender gaps in the industry but also create employment opportunities for marginalized groups.

ii. Business management and marketing support

Beyond technical training, clean energy entrepreneurs have benefited from support in business management, marketing, and financial planning. Programs facilitated by organizations such as GIZ and Practical Action have provided training on branding, record-keeping, and marketing strategies. These initiatives have helped entrepreneurs become more independent, improve financial literacy, and effectively promote their products.

iii. Mentorship and peer learning opportunities

Mentorship programs and exchange visits have created valuable platforms for knowledge sharing, networking, and best-practice adoption. Successful entrepreneurs are often called back to mentor others, ensuring that industry knowledge continues to be transferred within the sector. These initiatives help aspiring business owners refine their strategies, navigate challenges, and gain insights from experienced clean energy entrepreneurs.

iv. Financial and logistical support

In addition to training and mentorship, financial support has played a key role in helping entrepreneurs scale their businesses. Organizations like GIZ have provided stipends, transport allowances, and funding opportunities, making it easier for entrepreneurs to attend training sessions and reinvest in their enterprises.

Recommendations based on the KIIs

To fully unlock the potential of youth- and women-led CEEs in Kenya, targeted interventions are necessary to address existing challenges and create an enabling environment for sustainable growth. Analysis of data from the KIIs identified several strategic areas for improvement, including technical and business training, access to finance, market linkages, gender inclusivity, and government support.

i. Expand access to technical and business training to equip entrepreneurs with the necessary skills to develop high-quality clean energy solutions.

Strengthening collaborations between TVET institutions, industry players, and universities can enhance hands-on learning opportunities in solar installation, stove fabrication, and biogas system maintenance. Establishing regional clean energy incubation hubs would provide ongoing mentorship, post-training follow-ups, and business development support. Additionally, universities and research

institutions should work more closely with clean energy enterprises to drive innovation and improve product efficiency.

ii. Improve access to finance and investment opportunities, as many entrepreneurs struggle to secure funding due to high collateral requirements and limited financial literacy.

Expanding partnerships with banks, cooperatives, and microfinance institutions can facilitate tailored financial products designed specifically for clean energy businesses. Government-backed credit guarantee schemes could help de-risk lending, enabling more youth and women entrepreneurs to access affordable loans. Additionally, results-based financing models and grant opportunities should be made more accessible to support the scaling of CEEs

iii. Enhance market linkages and business opportunities to enable entrepreneurs to connect with potential customers and suppliers.

Public-private partnerships (PPPs) can strengthen supply chains, reduce raw material costs, and expand business networks. Increasing the number of exhibitions, networking events, and community demonstrations can help clean energy businesses showcase their products to broader markets. Additionally, digital marketing strategies and e-commerce platforms should be developed to support entrepreneurs in reaching a wider customer base.

iv. Address gender-specific barriers to foster an inclusive clean energy sector.

Majority of women entrepreneurs face structural and societal constraints that limit their leadership and business ownership opportunities. Policies should be introduced to promote women's participation in decision-making roles and business management. Training programs should also be designed with flexible schedules and accessible locations to accommodate women with domestic responsibilities. Additionally, mentorship and peer-support networks should be strengthened to connect women entrepreneurs with experienced industry leaders who can provide guidance and business development support.

v. Government to create a more conducive business environment for clean energy enterprises.

Simplifying licensing procedures and regulatory costs will encourage more entrepreneurs to enter the sector. The government should also invest in clean energy entrepreneurship through subsidies, tax incentives, and procurement programs that prioritize youth and women-led enterprises. Additionally, improving information dissemination through government agencies and development organizations will ensure that entrepreneurs have access to up-to-date policies, financial opportunities, and technological advancements. By implementing these strategic interventions, Kenya can create a thriving clean energy ecosystem that drives economic empowerment, environmental sustainability, and increased energy access. A collaborative approach involving the government, financial institutions, development organizations, and private sector stakeholders will be essential in ensuring the long-term sustainability and scalability of youth- and women-led clean energy enterprises.

3. THE CLEAN ENERGY ECOSYSTEM AND THE ENTREPRENEURIAL CONTEXT: DEEP AND INTERACTIVE CONVERSATION

This session was designed to elicit insights and deep conversation on gender and CEE nexus based on the empirical evidence generated from the study countries. It involved presentations from experts drawn from the project team and the advisory board as well as a plenary session comprising of the selected stakeholders in the clean energy sector.

3.1. Key concepts and frameworks relevant for informing scaling of small and medium CE value chains: reflections from Rasmus Lema

Prof. Lema presentation focused on scaling and impact within women and youth-led clean energy value chain enterprises in Africa, particularly within the Solar PV value chain. Prof Lema emphasized the importance of structured policy interventions, targeted support for entrepreneurs, and the need for co-designed policies that integrate energy, industrial, and social strategies. Key insights from the presentation include:

Figure 14: Lema presenting

A Structured Approach to Policy Interventions

- Scaling clean energy enterprises follows a sequential process: first diffusion, then economic benefits, and finally, Equality, Diversity, and Inclusion (EDI) efforts.
- EDI policies must be integrated into economic and diffusion strategies to be effective.

The Challenge of Co-Designing Policies

- Energy, industrial, and social policies should work together instead of existing in silos.
- Coordination between institutions remains a challenge but is essential for impact.

Opportunities in the Solar PV Value Chain

- Certain stages of the value chain have lower entry barriers and can be leveraged for women and youth participation.
- Tailored support programs and entrepreneurship incentives should target these accessible areas.

EDI as a Practical Strategy

- Policies should actively promote access to finance, training, and skill-building to encourage women and youth participation.
- Stakeholder collaboration is needed to create enabling environments for underrepresented groups.

Final Reflections: Implementation is the Biggest Challenge

- Institutional Coordination, financial constraints, and cultural barriers make implementation difficult.
- Sustained efforts, strong commitment from stakeholders, and innovative policies are required for meaningful change.

Lema highlighted the potential for women and youth-led clean energy enterprises and stressed that achieving impact requires integrated policies, targeted interventions, and long-term commitment. While the ideas presented are promising, he acknowledged that turning them into reality is a complex challenge that will need collaboration across sectors.

3.2. Transformative potential of clean energy enterprises: gender and capacity issues: reflections from Margrethe Andersen

Dr Andersen shared her thoughts on the transformative potential of clean energy enterprises from the research finding presented by the ACTS team on gender, capacity strengthening and renewable energy. The key discussion points from her presentation include:

Figure 15: Magrethe presenting her reflections

Emerging evidence of transformative potential

Magrethe was able to draw conclusions on this topic from Daniel's presentation on the findings of evidence for informing optimization and scaling of youth and women led CEE and business models in Kenya that was presented earlier that day. She highlighted that not many women and youth are leading CEE'S though from Kenya's survey there's quite a number, there is opportunity for upgrading women and youth in the clean energy sector especially to have own businesses and in manufacturing as well as indications that transformation to clean energy use will replace many jobs like that of coal production whereby about 700,000 people in Kenya are employed.

Gender studies: a long history

This has spanned from WID, WAD, GAD – and now: Intersectionality. She defined the history of Women in Development (WID) which is about women role in economic development and how to get them into modern development, Women and Development (WAD) which digs deeper into the relationship between women and development and how they have been important actors of development inside and outside the household, Gender and Development (GAD) which is rooted in socialist feminism and focuses on women oppression and how these mechanisms are generated. Finally, she brought out how in the present there should be increased focus on the intersection between gender and other social divides like class, generation and geographical differences.

Gender and transformative potential in clean energy enterprises

She pointed out that if CEEs or activities mainly relates to the practical gender needs (e.g; access to electricity or clean energy) it may not actually be very transformative and hence effects on gender equity will be limited.

Capacity issues

On this matter she emphasized that CEEs are in different production and innovation systems, ranging from the very local context, over sectoral and national systems to the global production and innovation systems and that their positions within these systems may influence their potential for transformative change.

Different types of capabilities

i. Capabilities for interactive learning (e.g. learning between contractors and local suppliers or public authorities and local firms)
ii. Capabilities for intra-active learning (e.g. learning within firms, organisations and public authorities)
iii. Technological capabilities – both in services related to renewable energy and in manufacturing.

By strengthening such capabilities, the capacity of CEI enterprises for transformative change may be increased**.**

Key questions on capacity issues

At the end of her presentation Margrethe posed some questions to the conference audience for people's reflection relating to capacity issues in CEEs.

1. What are the existing capabilities and the capacity among CEEs operated by women and youth in your respective cases?
2. What are the requirements for capacity strengthening emerging from the cases you are investigating seen from a gender and youth perspective?

3. How can such requirements be addressed, given the need to take a systematic and holistic approach to training (i.e. the need to look at opportunities both in relation to formal education e.g. TVET, STEM/Higher Education Institutions -HEI) and informal training?

3.3. An interactive learning session informed by the previous speakers' interventions plus Q & A moderated by Rebecca Hanlin

Prof. Hanlin summarized the key points regarding the barriers and enablers for women and youth to engage in clean energy initiatives, particularly in terms of access to funding, education, and government support. A recurring issue raised was the difficulty in accessing financing, particularly for women. Even though funding opportunities exist, women often struggle to secure them due to factors like the lack of collateral, insufficient business planning, and smaller loan requests that may not push businesses to scale effectively.

Figure 16: Participants during an interactive session

It was emphasized that women tend to avoid larger financial risks and request smaller amounts of funding that limit their business growth. Additionally, there is a lack of education on clean energy and business management, which prevents women and youth from taking full advantage of these opportunities. This is compounded by cultural barriers and gender biases that restrict access to knowledge and business resources.

On the other hand, factors that enhance engagement in clean energy businesses include the ongoing changes in the education sector, where universities and technical colleges are beginning to offer clean energy-related courses, creating more knowledgeable professionals. There are also targeted efforts by institutions like GIZ, which focus on empowering women and youth. However, the sector still faces challenges such as lack of government support and policy barriers, including regulatory frameworks that sometimes limit innovation and entrepreneurship.

To address some of the challenges, solutions like providing demand-driven training at the community level, engaging the government more actively in policy creation, and incentivizing clean energy investments were proposed. These steps would help reduce the risks associated with starting new

businesses in the clean energy sector, particularly for women and youth, while also creating a more supportive ecosystem for entrepreneurship.

It was also highlighted that there is a critical need to focus on how technology transfer mechanisms can be designed to be more inclusive, particularly in addressing the gender disparities within the clean energy sector.

There was an acknowledgment that the general business environment poses significant barriers, but these are often compounded by gender-related biases that hinder women and youth from entering and thriving in this space. The conversation also touched on the importance of creating a more detailed understanding of the value chains in clean energy, with specific attention to how different segments can be made accessible to these marginalized groups. It was pointed out that while women and youth can engage in areas like clean cooking and solar, other value chains also present untapped potential that should be explored.

Moving forward, the discussion emphasized the necessity for targeted policy interventions and support mechanisms that cater not only to the overall business environment but also to the specific needs of women and youth, to foster their entry, retention, and success in the energy sector. Additionally, there was a call for deeper research into how gender factors influence the adoption and implementation of clean energy technologies to ensure that solutions are equitable and just for all stakeholders involved.

3.4. Panel discussion session: Business models and experiences with the clean energy projects.

This panel discussion convened experienced and influential stakeholders from Kenya's clean energy and cooking sectors, fostering an open and insightful exchange of knowledge. This session was moderated by Dr. Caroline Mbaya and the four panelists.

- Daniel Abonyo- The Improved Stoves Association of Kenya (ISAC),
- Abigail Wairua - Dedan Kimathi University,
- Vincent Ogaya - The Kenya Climate Innovation Center (KCIC),
- Matthew Matenga Yehu Microfinance.

Panelists provided in-depth perspectives on CE business models, their involvement in the project, and strategic approaches for advancing clean energy adoption, with a particular focus on enhancing the participation of women and youth.

Key Highlights from the panel discussion

- **Integration of Research, Policy, and Business for Clean Energy Growth-** Panelists emphasized the need for collaboration between research institutions, government, and the private sector to effectively address challenges in clean energy space. They highlighted how access to up-to-date policies and research findings helps in identifying market gaps and shaping targeted interventions.
- **Ensuring Quality Standards and Innovation in Clean Cooking Technologies-** Discussions underscored the role of partnerships and capacity-building in maintaining quality standards for clean cookstoves and other energy-efficient technologies. One panelist highlighted efforts to train stove fabricators to meet industry standards, while another shared insights on university-led research and innovation in advancing efficient stove technologies.
- **Financial and Business Support for Women and Youth Entrepreneurs-** Access to finance was identified as a key barrier to scaling clean energy enterprises. Panelists shared models used to support entrepreneurs, including business incubation services, advisory programs, and microfinance solutions such as group lending schemes tailored for women and

youth. The discussion emphasized the need for flexible financing mechanisms to enhance affordability and accessibility.

- **Capacity-Building, Mentorship, and Scaling Innovations-** Panelists discussed the role of mentorship in equipping entrepreneurs with essential business skills and industry knowledge. Business incubators were highlighted as critical in linking startups with experienced mentors, investors, and policymakers. However, challenges such as regulatory constraints and limited capital were noted as significant barriers to scaling innovations.
- **Addressing Gender-Specific Challenges in the Clean Energy Sector-** Gender-sensitive approaches in technology development and entrepreneurship support were emphasized. Panelists pointed out the challenges women face in technical fields, including access to tools, personal protective equipment, and financing. The discussion called for intentional efforts to create gender-inclusive policies, enhance mentorship for women entrepreneurs, and strengthen government support for scaling clean energy startups.


Figure 17: Pictures taken during the panel discussion session

4. FOCUS GROUPS DISCUSSION ON SCALABILITY AND TRANSFORMATIVE POTENTIAL OF CEES FOR YOUTH AND WOMEN

This session was designed to delve into a discussion around key aspect of inclusivity, scalability and transformative potential of clean energy based on the project's data and stakeholders' experience with the project. The discussions were guided by the overarching statement: *scalability and transformative potential of CEEs for youth and women: what can we learn from this study in terms of the following?*

i. Factors enhancing or hindering youth and women from engaging in transformative clean energy enterprises or businesses?
ii. What are the three key challenges and solutions to these challenges in unlocking potential for youth and women to transition from service-oriented tasks to entrepreneurs in the clean energy value chains?

4.1. Reports from the groups

The table 1 below presents a synthesis of key insights drawn from the focus group discussions held during the session on scalability and transformative potential of CEEs for youth and women. The discussions were structured around the guiding questions and the deliberations are summarized under four columns namely: factors enhancing engagement, factors hindering engagement, key challenges, and proposed solutions.

Table 1: Highlights of themes emerging from groups discussions

Grps	Factors enhancing	Factors hindering	Key Challenges	Solutions to key challenges
G1	-Need to have more advice and support on business planning and financial literacy. -Lots of initiatives in CEE (eg; GIZ). -Integrated policy. -Having strong interactions with the government like in the clean cooking sector. -Change in curriculum that has included more fabrication and clean energy courses (eg; in Dedan Kimathi and Strathmore) -Availability of information and incubation hubs.	-Barriers to accessing the funding – paperwork e.g. business permit evidence and requirement (collateral). -Lack of knowledge structures and proper channels to deliver the knowledge (e.g; authoritative figures in communities) -Lack of government support. -Cultural challenges -Lack of information by suppliers on how to get legitimate certification.	-Access to funding challenge. -Cultural barriers.	-Need to show people end game and that its profitable (innovation through imitation) -Training and empowerment at community level. -Government incentives vs disincentives for those who invest in clean energy solutions. -Integration of CEE with other sectors like Agriculture whereby cooling centers can be powered by solar. -A mentorship approach from Incubation hubs as opposed to business advisory.
G2	-Provision of incentives/ mentorship platforms/ scholarships in clean energy entrepreneurship. -Dedicated microfinance that are willing to support the youth and women in the clean energy business. -Affirmative action/ laws that push for gender equality and inclusion in society. -Opportunity to make an income or profit from the clean energy business where there is demand. -Better health for women when they use clean cooking.	-Lack of collateral for accessing financial loans. -Cultural systems that don't believe in women's or youths capabilities in the clean energy industry. -Gender biasness/ stereotypes. -Policy/ Regulation issues. -Lack of resources. -Lack of skills/ capacity building among the youth and women. -Impatience especially among the youth for the business to produce a high turnover over a short period of time which is not usually the case in CEE.	-Lack of self-confidence. -Low female empowerment. -Lack of knowledge/clarity on the benefits of engaging in clean energy business like acquisition of carbon credits. -High initial cost investment to start-up a clean energy enterprise.	-Creation of awareness of clean energy technology. -Continuous mentoring. -Capacity building and skills training. -Leveraging of existing opportunities in CEE. -Policies and incentives that encourage clean energy businesses.
G3	-Better policy enhancing local production and use of commodities, which is an effort from the government. -Targeted awareness and funding advocating for the youth and women. -Growing demand for clean energy and economic solutions.	-Social and cultural bias that discourage women and youth from engaging in CEE. -Skills gap.	-Lack of financial resources and literacy. -Bureaucratic inertia. -Donor dependency. -Lack of formalization of informal trade or businesses.	-Equip women and youth how to manage finances and resources. -Assist the youth and women in accessing any paperwork they need to formalize their business and make the process smoother.

G4	-Advocacy campaigns that encourage women and youth to join transformative clean energy enterprises. -Targeted hubs /opportunities for women and youth in CEE. -Access to digital marketing/e-commerce. -Access to financial models to start-up their businesses.	-Lack of adequate information on clean energy technology and business ventures. -Lack of access to finances since they lack collateral/assets. -Women lack the time to engage in clean energy business as they are busy with domestic duties. -Lack of sustainable policies that support women and youth in the clean energy business from the government, mostly rely on international developers that could be terminated. -Cumbersome regulation fees. -Lack of technical skills.	-Poor financial frameworks that are donor dependent. -Regulatory framework policies. -Lack of capacity building and skills. -Cultural bias.	-Special financing models. -Integrated solutions in clean energy value chains. -Mentorship of women and youth in CEE. -Awareness creation on clean energy business. -Advocacy for girls to join STEM.

4.2. Synthesis of learning lessons from the groups

This session was very rich in terms of learning and overall, there was a consensus around key challenges notably financial access, information gaps, inadequate training, and unsupportive policy environments that are critical to enhancing transformative potential of CEEs. Participants highlighted that unlocking the full transformative potential of CEEs for marginalized groups requires intentional capacity building, continuous mentorship, and more inclusive financial models. Key highlights emanating from the groups are summarized below:

- Key enablers of youth and women engagement in CEEs include access to mentorship platforms, incubation hubs, integrated policy frameworks, growing market demand for clean energy, and the introduction of clean energy topics in academic curricula.
- Targeted government efforts, such as affirmative action policies, microfinance tailored for youth and women, and advocacy campaigns to boost awareness are needed.
- Lack of access to finance, often due to absence of collateral, cultural biases and gender stereotypes, low awareness of clean energy opportunities, limited business and technical skills, and weak government support confound the structural and socio-cultural barriers that continue to limit inclusive and transformative clean energy businesses
- The psychological barriers such as low self-confidence and impatience among youth, who expect quick returns from clean energy ventures, is something to consider when discussing pro-youth business interventions.
- Formalization of informal businesses, especially through simplified regulatory processes, should be supported.

5. STUDENT MENTORSHIP SESSION WITH ADVISORY BOARD MEMBERS & EXPERTS FROM PROJECT TEAM

This session was organized to allow the beneficiaries of the research fellowships to interact with the project's advisory board, other experts from the project and wider stakeholder from the clean energy sector. Using their project posters as visual aids, students effectively showcased their research, innovations, and findings.

5.1. Key highlights from the session

This session provided an invaluable opportunity for students to interact directly with experienced professionals, allowing them to present their work, discuss ideas, and gain critical feedback. This hands-on approach not only helped them articulate their concepts clearly but also provided a structured platform for engaging discussions with industry experts.

Figure 18: Student presenting their work during the mentorship session with advisory board members and the participants, from Left is Hafwas (Uganda), Lucy (Kenya), Dickson (Malawi) and Regina (Uganda).

The interactions between students and advisory board members were both enriching and insightful. Through open discussions, students received constructive feedback on their projects, helping them refine their ideas and explore potential improvements. The board members, drawing from their extensive experience, offered valuable guidance on best practices, industry expectations, and emerging trends in the field. Their mentorship provided students with fresh perspectives and a deeper understanding of how their work aligns with real-world applications.

Beyond knowledge exchange, this session played a significant role in fostering meaningful connections. Students were able to network with professionals, gaining exposure to potential career pathways and industry expectations. These interactions not only enhanced their academic learning but also served as a bridge between academia and industry. Many students left the session feeling more confident in their work, motivated by the encouragement and insights shared by the experts.

5.2. Concluding remarks on mentorship

Overall, this engagement underscored the importance of mentorship and industry-academic collaboration. By facilitating direct communication with professionals, the session empowered students to refine their projects, broaden their perspectives, and establish relationships that could lead to future collaborations and career opportunities.

6. OVERALL REFLECTIONS FROM THE WORKSHOP AND KEY TAKEAWAYS

This interactive session was designed to allow the participants to reflect on their learning experiences and identify key insights gained. It also included final closing remarks from one of the participants and the PI, Ann Kingiri.

6.1. Participants reflections of the workshop

As the workshop concluded, participants were invited to share their personal takeaways, lessons applicable to their organizations, and critical points from the workshop that could inform ongoing and future projects. The discussions highlighted a deeper understanding of clean energy entrepreneurship (CEE), the role of research in shaping policy, and strategies for fostering gender and youth inclusion in the energy transition. Additionally, participants acknowledged the importance of collaboration, capacity building, and knowledge exchange in scaling up clean energy innovations. The insights gathered during these reflections will serve as guiding principles for strengthening initiatives and driving impactful change in the sector. Below the key reflections and takeaways from these discussions are outlined.

6.1.1. General reflections

Policy and Market Adaptability

Participants emphasized the necessity of continuously reviewing and aligning policies with industry developments to address market barriers effectively due to the fast-paced evolution of the clean energy sector was a key realization. Ensuring that policy frameworks remain responsive to sectoral changes was highlighted as a critical aspect of sustainable energy transition.

The Role of Women and Youth in the Global Value Chain

Participants identified the clean energy sector as an integral part of the global value chain, with increasing evidence that women and youth play significant leadership roles within the industry. This realization reinforced the importance of designing interventions that empower these groups to enhance their contributions to the sector.

Professional Growth and Knowledge Expansion

Several participants reflected on their personal growth and the knowledge gained during the workshop. Some developed a deeper understanding of enterprise mapping in the energy sector, while others gained insights into structuring incubation programs for clean energy start-ups. The workshop also encouraged participants to question their roles in fostering an enabling environment for women *entrepreneurs and to reflect on ways to eliminate structural biases.*

Figure 19: Pictures taken during the final reflections' breakout group discussion, Group 1 and Group 2 respectively.

Gender Dynamics in Clean Energy

Participants acknowledged the complexities surrounding gender inclusion in the clean energy sector, particularly the structural barriers that hinder women and youth from fully participating in the industry. There was a recognition of the need for deliberate efforts to integrate gender-responsive approaches in clean energy initiatives to ensure equitable opportunities.

Collaboration and Research Synergies

A key takeaway for some participants was the importance of collaboration in advancing clean energy research and implementation. Recognizing the need to engage with other scholars and research teams,

participants expressed a commitment to fostering partnerships to enhance knowledge exchange and innovation.

Scalability and Economic Impact
The workshop reinforced the nexus between clean energy and job creation, with participants acknowledging the need for scalable solutions to maximize economic impact. Additionally, there was an increased appreciation of data analysis and interpretation as fundamental components for generating insights that inform clean energy policies and interventions.

Motivation and Future Endeavors
Participants left the workshop feeling motivated and inspired in their professional journeys. Many expressed a renewed commitment to contributing to the clean energy transition, armed with new insights on the role of women-led enterprises and the importance of integrating their learnings into the production of knowledge products.

6.1.2. Institutional/organizational oriented takeaways

Integrating Practical Skills into Organizational Strategy
Participants highlighted the need to translate the practical skills gained during the workshop into actionable improvements within their organizations. They expressed a commitment to leveraging these skills to drive innovation and enhance entrepreneurial initiatives in the clean energy sector.

Development of Incubation Programs
Several participants proposed forming interdisciplinary teams to design and implement incubation programs within university incubation centers. These programs aim to support emerging clean energy enterprises by providing structured mentorship, capacity-building opportunities, and access to essential resources.

***Enhancing Mentorship, Capacity Building, and Financial* Access**
Organizations were identified as key enablers in fostering mentorship, strengthening capacity-building efforts, and facilitating access to financial resources for women and youth entrepreneurs. Participants recognized the role their institutions could play in bridging gaps within the clean energy ecosystem.

Efficiency in Project Execution and Reporting
The workshop reinforced the importance of organizational efficiency in project execution. Participants acknowledged the need for timely and effective responses to project reports to enhance implementation and ensure the success of clean energy initiatives.

Addressing Diversity within Women and Youth Groups
Participants emphasized the necessity of recognizing and addressing the diverse needs of women and youth groups, particularly marginalized subgroups such as persons with disabilities. They underscored the importance of developing targeted interventions that account for these variations.

Scaling Business Operations through Strategic Partnerships
The need for strategic partnerships to expand and scale clean energy enterprises was a key takeaway. Participants acknowledged the value of collaborative networks in fostering business growth and sustainability.

Policy and Legal Framework Challenges
Participants noted that existing gender-neutral policies and legal frameworks pose challenges in integrating women-led entrepreneurship into the clean energy sector. They called for more gender-responsive policies that acknowledge and address specific barriers faced by women entrepreneurs.

Incorporating Clean Energy Innovation in Curriculum Development
Recognizing the growing importance of clean energy innovation, participants emphasized the need to integrate clean energy-related content into academic curricula. This would equip future generations with the knowledge and skills required to contribute effectively to the sector.

Strengthening Collaboration and Knowledge Sharing
The workshop reinforced the significance of collaboration in advancing clean energy initiatives. Participants emphasized the need for continuous engagement and knowledge sharing across institutions, industries, and sectors to drive sustainable innovation and entrepreneurship.

6.2. Closing remarks

Ann Kingiri concluded the workshop by summarizing the key outcomes and reflections from the two days, thanking the participants for having engaged in a productive way. The first day was marked by active sharing and insightful feedback from the Advisory Board, which helped refine the project's approach and implementation. The discussions emphasized the importance of packaging the project's materials for wider dissemination, especially in Kenya and other target countries. Day two saw the participation of key stakeholders, including researchers and entrepreneurs, contributing to vibrant discussions on how to effectively take the lessons learned to the grassroots. The importance of partnerships and the need for continued collaboration were central themes, with a clear focus on ensuring the knowledge gained would benefit others beyond the workshop.

Figure 20: Ann Kingiri giving the closing remarks

She emphasized the need to maintain momentum and sustain the partnerships that had been established. The focus was on turning the insights and outcomes from the workshop into meaningful, tangible impact, especially for entrepreneurs, local communities and policy actors.

6.3. Thank you note

Regina, a master's student from Uganda delivered a vote of thanks on behalf of all the participants. She first shared some reflections on the value of innovation and its real-world impact, underscoring the importance of turning research and knowledge into actionable solutions to address challenges like climate change. Gratitude was expressed to the organizers, and there was a collective commitment to refining and applying the knowledge gained in the workshop to advance green energy solutions and entrepreneurship in the region. The participants were thanked for their active participation that contributed to the success of the workshop.

7. ANNEXES

7.1. Annex 1: Workshop Programme

Evidence for Informing Scaling and Impact in Youth and Women-Led Clean Energy Enterprises (EVI-SICEE) in Africa

Project team/Stakeholders Learning workshop

6th – 7th February 2025

Venue, ICIPE campus, Duduville, Kasarani, Nairobi

DAY 1: 6TH FEB 2025: PROJECT TEAM LEARNING MINI-WORKSHOP (participants include project team members and advisory board)

TENTATIVE PROGRAMME DAY 1

Opening session Moderator: Mourine Cheruiyot			
Time	**Activity**	**Description**	**Facilitator**
08:30 - 09:00	Registration	-	Tiffany/Joyce
09:00 - 09:20	Welcome remarks	Opening remarks	Mourine Cheruiyot
09:20 - 09:30	Learning Workshop expectations	Participants	All/ Mentimeter
09:30-10:00	Project objectives	Revisiting the theory of change/impact pathway and project work plan	Ann Kingiri
10:00 - 10:30 – Tea break and poster session plus group photo			
Day 1- Session1: Project implementation Updates Moderator: Caroline Ntara			
10:30 -10:50	Presentation from Uganda including preliminary scoping study report	Output, Challenges and next steps	Sylvia Aarakit
10:50 -11:05	Presentation from Malawi	Output, Challenges and next steps	Chrispin Gogoda
11:05-11:20	Presentation from South Africa	Output, Challenges and next steps	Rebecca Hanlin
11:20-11:50	Presentation on scoping study (Kenya)	Key findings	Linda Fatuma
11:50-12:20	Presentation on survey (Kenya)	Key findings	Daniel Musyoka
12:20-12:50	Presentation on KIIs (Kenya)	Key findings	Ann Numi
12:50-13:10	Discussions on presentations from Countries	Distilling key messages	Caroline Mbaya
13:10 - 14:00 – Lunch break & poster session			

Day 1: Sesson 2: The Kenya's clean energy ecosystem and the entrepreneurial context for youth and women led businesses Moderator: Solomon Ogara	
14:00-14:30	Key concepts and frameworks relevant for informing scaling of small and medium CE value chains: reflections from Rasmus Lema
14:30-15:00	Transformative potential of clean energy enterprises: gender and capacity issues: reflections from Margrethe Andersen
15:00-15:30	An interactive learning session informed by the previous speakers' interventions moderated by Rebecca Hanlin
15:30-16:00	Question and Answer session/Discussion
16:00-16:15	Tea Break
16:15-17:30	Student mentorship session with advisory board members (**students to share a two-page summary of their work ahead of the meeting**)

DAY 2: 7 FEB 2025- STAKEHOLDERS LEARNING WORKSHOP
(participants include project team, advisory board and invited stakeholders)

TENTATIVE PROGRAMME DAY 2

TIME	**Opening Session - Moderator: Mourine Cheruiyot**
9:00-9:30	Introduction of participants Welcome remarks • Remarks from Dr. Faith Odongo, Director Renewable Energy, State Department for Energy, Ministry of Energy and Petroleum, Kenya
Session 1: The Kenya's clean energy ecosystem and the entrepreneurial context for youth and women led businesses: study findings - Moderator: Sylvia Aarakit	
9:30-10:00	Brief overview of the project • Ann Kingiri
10:00-10:30	**Health Break, Group Photo & poster session**
10:30-11:00	Evidence for clean energy entrepreneurship and opportunities for youth and women entrepreneurs in Kenya- Scoping study • Linda Fatuma
11:00-11:30	Evidence For Informing Optimization and Scaling of Youth and Women Led Clean Energy Enterprises and Business Models in Kenya: Survey Report • Daniel Musyoka
11:30-12:00	Stakeholder perspectives on systemic factors enhancing scalability and transformative potential of CEEs for youth and women in Kenya – KIIs report • Ann Numi
12:00-12:30	Kenyan stakeholders' panel session discussing their business models and their experience with the project. Panel: Matthew- Yehu Microfinance, Christine-KCIC, Abigail Wairua- Dedan Kimathi University and Daniel Aboni –ISAK • Moderated by Caroline Mbaya
12:30-13:00	Discussion: Brief reflection on Morning session moderated by Chrispin Gogoda
13:00-14:00	**Lunch break and poster session**
Session 2: Break out group discussions and reporting Moderator: Margrethe Andersen	
14:00-15:00	Breakout groups (see draft guiding questions)
15:00-15:45	Plenary reporting and discussion

15:45-16:00	Closing remarks • Ann Kingiri
16:00-16:30	**Tea Break and Departure**

Breakout Groups Discussions - Guiding questions

Focus: Scalability and transformative potential of CEEs for youth and women: what can we learn from this study in terms of the following?

1. Factors enhancing or hindering youth and women from engaging in transformative clean energy enterprises or businesses?
2. What are the three key challenges and solutions to these challenges in unlocking potential for youth and women to transition from service-oriented tasks to entrepreneurs in the clean energy value chains?

Logistics

✓ **Venue**

The meeting is scheduled to take place in Nairobi, at ICIPE campus, Duduville, Kasarani.

✓ **Accommodation**

Accommodation will be provided for attendees traveling from outside Nairobi at ICIPE campus, Duduville, Kasarani.

✓ **Meals and refreshments**

Meals and refreshments will be offered at the conference room and if you have any specific dietary preferences or allergies, kindly communicate them in advance to ensure suitable arrangements.

✓ **Online Participation**

Join Zoom Meeting link (to provide)

For all enquiries pertaining to travel and accommodation logistics, please contact Mourine Cheruiyot on M.Cheruiyot@acts-net.org or Yvonne Gitu on Y.Gitu@acts-net.org

7.2. Annex 2: List of workshop participants

	Name	Organization	Gender
1.	Abigail Wambui	Dedan Kimathi University	Female
2.	Agnes Lutomiah	ACTS	Female
3.	Alex Njuguna	KCA university	Male
4.	Alex Nyawira	Entrepreneur	Male
5.	Ann Kingiri	ACTS	Female
6.	Ann Numi	ACTS	Female
7.	Ashley Mboya	Krones Manufacturing	Female
8.	Beverly Kathy	In Sales	Female
9.	Caroline Mbaya	ACTS	Female
10.	Catherine Kilelu	ACTS	Female
11.	Crispin Gogoda	Mzuzu University	Male
12.	Cynthia Odongo	Odongo & Associates Advocate	Female
13.	Daniel Abonyo	ISAK	Male
14.	Daniel Musyoka	ACTS	Male
15.	Dickson Bota	Mzuzu University	Male
16.	Dr. Caroline Ntara	KCA University	Female

17.	Dr. Faith Odongo	Ministry of Energy & Consultant	Female
18.	Elza Wanjaa	Entrepreneur	Female
19.	Faith Jepkoech	FAMECHI	Female
20.	Felix Otieno	Ruri Green Technologies	Male
21.	Francis Karanja	Youth Owner	Male
22.	Glory Kendi Kimathi	Kanjuki Production	Female
23.	Gypson Kurere	Kelgy Green	Male
24.	Hafswa Nakibuuka	Makerere University	Female
25.	Isabel Mwangi	In sales	Female
26.	Jemimah Muthoni	Kenya youth Enterprise Fund	Male
27.	John Nganga	Fairtrade Africa	Male
28.	Joy Junias	Obang' Law	Female
29.	Joyce Gathaci	ACTS	Female
30.	Karen Chepkurui	MECS & Gamos East Africa	Male
31.	Kasimba Damaris	Dedan Kimathi University	Female
32.	Kevin Nayema	Nuvoni Research	Male
33.	Lindah Kakai Fatumah	Consultant	Female
34.	Lucy Nabangala	KCA University	Female
35.	Majanja Mathew	Yehu Microfinance	Male
36.	Margrethe Andersen	Advisory committee	Female
37.	Maureen Wesonga	ISAK	Female
38.	Montana Hinga	Entrepreneur	Female
39.	Mourice Kausya	Nuvoni Research	Male
40.	Mourine Cheruiyot	ACTS	Female
41.	Okuku Maxwell	Entrepreneur	Male
42.	Patricia Mbogo	Access coalition	Female
43.	Paul Okwi	IDRC	Male
44.	Pauline Soy	ACTS	Female
45.	Prisca Ochieng	Kenyatta University	Female
46.	Prof Tom Ogada	ACTS	Male
47.	Rasmus Lema	MERIT	Male
48.	Rebecca Hanlin	University of Johannesburg	Female
49.	Regina Nakawuki	Makerere University	Female
50.	Rose Wanjiku	Technician	Female
51.	Wesonga Douglas	In Sales	Male
52.	Saraba Brian	Manufacturing	Male
53.	Solomon Ogara	Advisory committee	Male
54.	Sylvia Manjeri	Makerere University	Female
55.	Syprose Ochieng	MECS & Gamos East Africa	Female
56.	Tiffany Njoroge	ACTS	Female
57.	Vincent Ogaya	KCIC	Male
58.	Wongu Christopher	Manufacturing	Male
59.	Walter Siasi	Entrepreneur	Male

60.	Yvonne Gitu	ACTS	Female

7.3. Annex 3: Advisory Board Members/Experts

Name	**Country**
Prof. Rasmus Lema	Netherlands and South Africa
Dr. Margrethe Andersen	Denmark
Prof. Solomon Ogara	Kenya
Prof. Rebecca Hanlin	South Africa
Dr, Faith Odongo	Kenya