ADVANCING A JUST ENERGY TRANSITION IN KENYA: LOCALISING RENEWABLE ENERGY FOR INCLUSIVE GROWTH AND DECENT WORK

SUB-NATIONAL POLICY DIALOGUES REPORT

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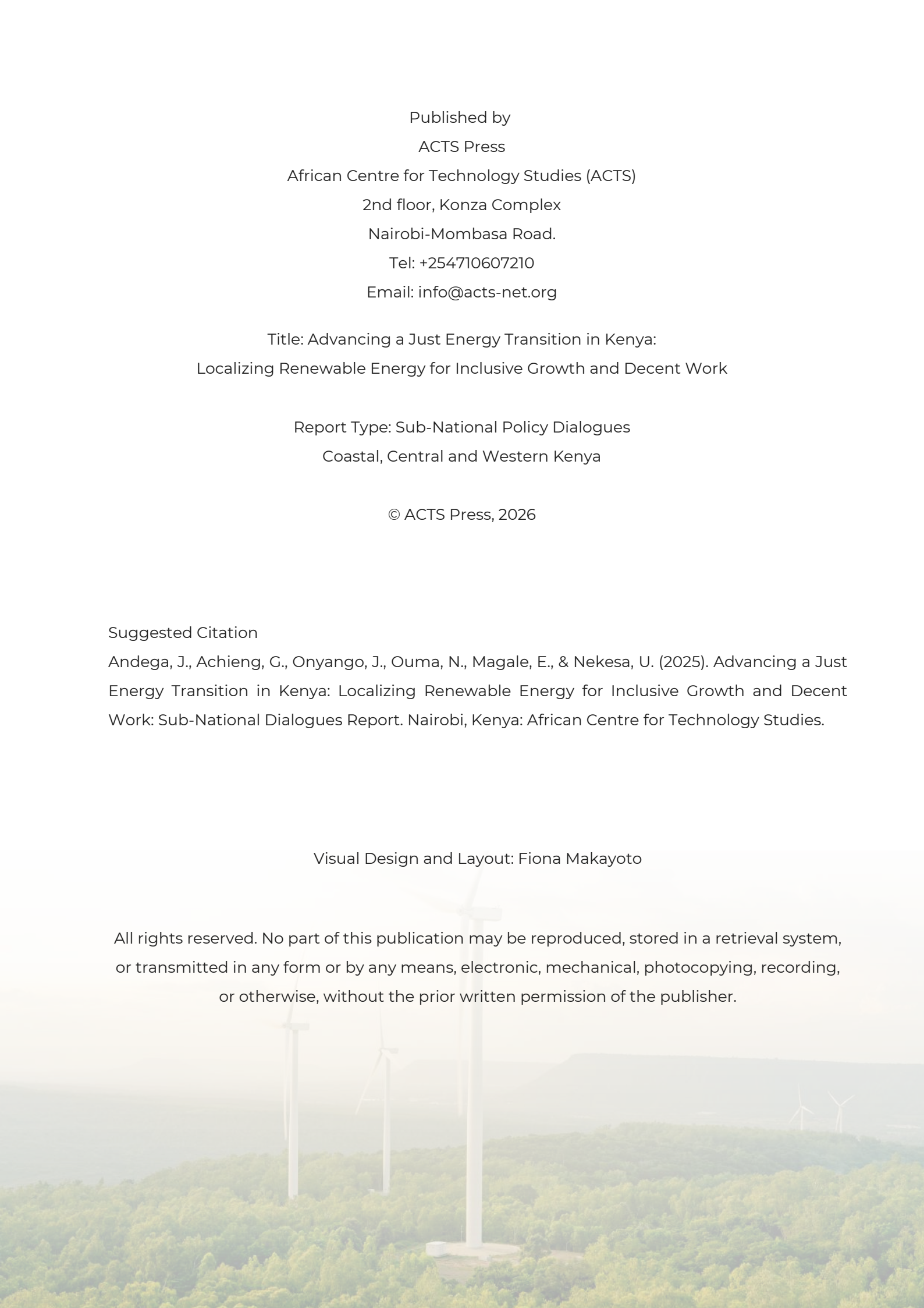


Table of Contents

Acronyms

CMEC	China Machinery Engineering Corporation
EaaS	Energy as a Service
EPRA	Energy and Petroleum Regulatory Authority
FiT	Feed-in Tariff
FLLoCA	Financing Locally Led Climate Action
GPN	Global Production Network
HS Code	Harmonized System Code
IDRC	International Development Research Centre
IPPs	Independent Power Producers
IREC	International Renewable Energy Conference
JET	Just Energy Transition
JKUAT	Jomo Kenyatta University of Agriculture and Technology
KENSEN	Kenya Solar Energy Ltd
KEREA	Kenya Renewable Energy Association
KEREC	Kenya Renewable Energy Centre
KIIs	Key Informant Interviews
LCPDP	Least Cost Power Development Plan
NDC	Nationally Determined Contribution
NITA	National Industrial Training Authority
OEM	Original Equipment Manufacturer
PPP	Public-Private Partnership
PV	Photovoltaic
PWDs	Persons with Disabilities
RE	Renewable Energy
REREC	Rural Electrification and Renewable Energy Corporation
SMMEs	Small, Medium, and Micro Enterprises
TVET	Technical and Vocational Education and Training
VAT	Value Added Tax

Executive Summary

This consolidated report presents the outcomes of Kenya's sub-national Just Energy Transition (JET) Policy Dialogues convened by the African Centre for Technology Studies (ACTS) in June 2025 across Coastal, Central, and Western Kenya. The dialogues aimed to localize Kenya's renewable energy agenda through inclusive, evidence-based discussions that connected policy, industry, labour unions, and community perspectives. They brought together policymakers, researchers, SMMEs, civil society and labour unions, and private-sector actors to examine how the principles of justice, equity, and localisation can be embedded within Kenya's renewable energy transition.

The report contextualizes Kenya's JET within a dynamic policy environment defined by the Energy Act (2019), the Climate Change Act (2016), Vision 2030, and the Big Four Agenda. While Kenya generates about 90% of its electricity from renewable sources which makes Kenya a continental leader, structural inequities persist. The benefits of the transition remain unevenly distributed due to weak local manufacturing capacity, limited financing for small enterprises, gender-based exclusion, and fragmented policy implementation. The dialogues sought to address these gaps by translating local and regional experiences into coherent national recommendations.

Across all three dialogues, stakeholders identified recurring themes:

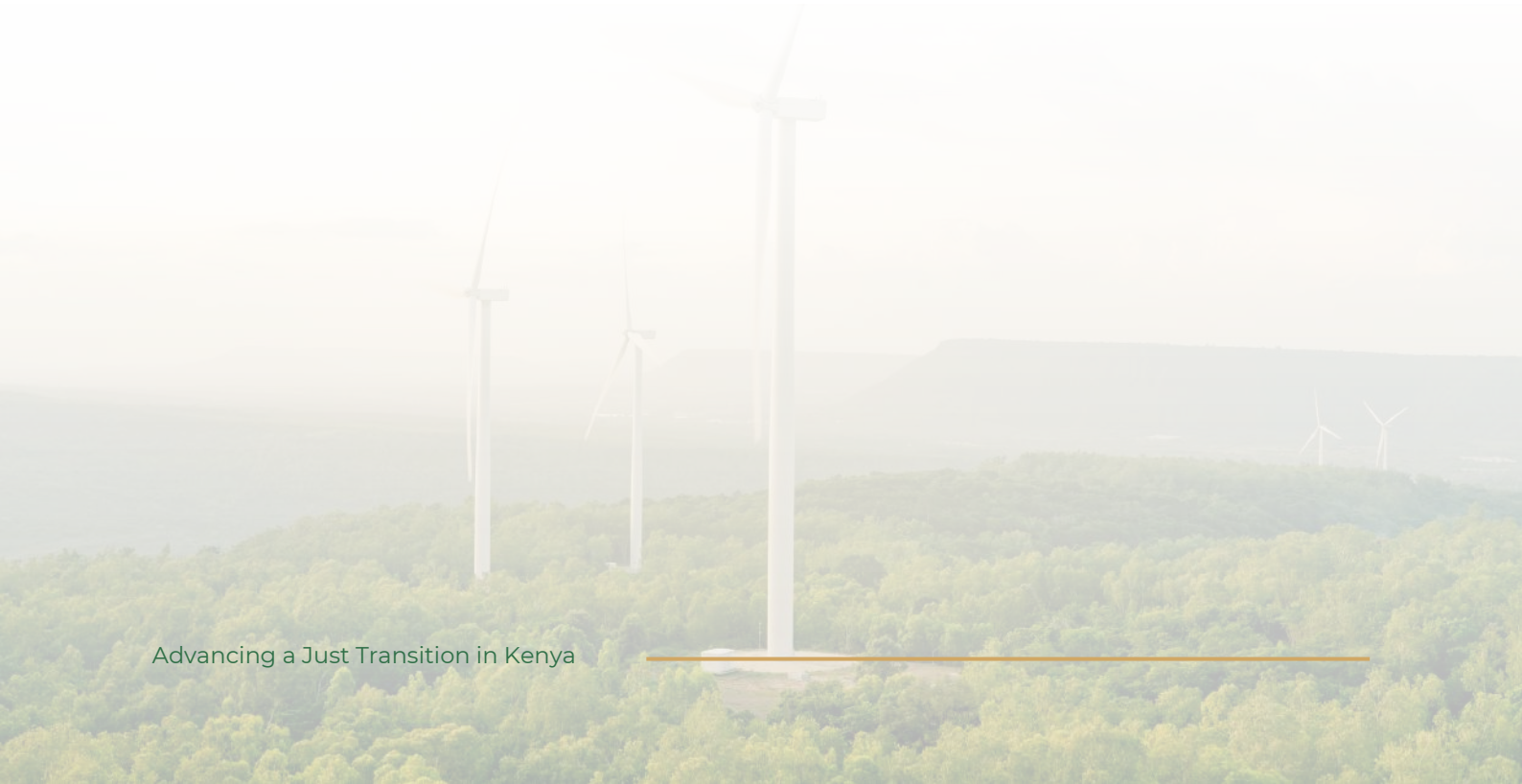
1. **Localisation and Industrialisation:** Kenya's renewable energy value chain is dominated by imported technologies, with local actors limited to assembly, distribution, and maintenance roles. Stakeholders called for stronger local content policies, decentralised licensing, investment in research, and regional collaboration to build domestic manufacturing capabilities.
2. **Small, Medium, and Micro Enterprises (SMMEs):** SMMEs are key to Kenya's renewable energy ecosystem but face major barriers, including limited access to credit, complex tax regimes, and exclusion from public procurement. Participants recommended targeted green financing, fiscal incentives, and incubation hubs to enhance competitiveness and sustainability.
3. **Decent Work and Employment:** Employment opportunities in the renewable energy sector are growing but remain largely informal and insecure. Workers – particularly women and youth – are underrepresented in technical roles. Stakeholders urged for RE-specific labour standards, fair wages, social protections, and the creation of energy-sector unions to safeguard decent work.
4. **Gender Equity and Inclusion:** Despite progressive frameworks such as the Gender Policy in Energy (2019), women's participation in technical and leadership roles remains low. Participants called for gender-responsive budgeting, affirmative action in training, and safe reporting mechanisms to combat discrimination and harassment.
5. **Sustainable Livelihoods:** Energy access does not automatically translate into improved livelihoods. The dialogues emphasized aligning renewable energy programs with agriculture, health, and manufacturing to ensure energy directly enhances productivity and income generation. This report directly informed Kenya's National JET Policy Dialogue (2025) and serve as a blueprint for embedding justice and localisation within the country's renewable energy future.

The dialogues further explored Kenya's position within the Global Production Network (GPN), revealing its current downstream dependency on foreign technologies. Stakeholders proposed strategies to move Kenya upstream—through local R&D, technology transfer, capacity building, and regional cooperation with countries rich in critical raw materials such as Tanzania and the DRC.

Key recommendations from the dialogues include:

- Establishing national and regional certification laboratories for renewable energy products.
- Reforming VAT and import duties to stimulate local manufacturing.
- Embedding JET principles in the upcoming Energy Policy (2025–2034).
- Strengthening technical training through universities and TVET institutions.
- Creating financing instruments and incentives for women- and youth-led enterprises.
- Decentralising energy planning to empower county governments and communities.

The sub-national dialogues reaffirmed that Kenya's energy transition must go beyond technological advancement to deliver social justice, equity, and inclusivity. Achieving a just transition requires coherent policies, accountable governance, and sustained investment in local capacity and innovation. The insights from this report directly informed Kenya's National JET Policy Dialogue (2025) and serve as a blueprint for embedding justice and localisation within the country's renewable energy future.



1 Introduction

Kenya stands at the forefront of Africa's renewable energy transition, with over 90 percent of its national electricity generated from clean sources such as geothermal, hydro, wind, and solar. Yet this success coexists with structural challenges: energy poverty, climate vulnerability, limited local manufacturing, and persistent socio-economic inequalities. These contradictions underscore that how Kenya transitions is as vital as how fast. The Just Energy Transition (JET) project, funded by the International Development Research Centre (IDRC) and implemented in Kenya by the African Centre for Technology Studies (ACTS), responds to these complexities by promoting a transition that is not only environmentally sustainable but also socially just, economically empowering, and locally grounded. The initiative aligns with Kenya's long-term development agenda articulated in Vision 2030, the Climate Change Act (2016), the Energy Act (2019), and the country's updated Nationally Determined Contribution (NDC), which commits to reducing greenhouse gas emissions by 32 percent by 2030.

The Energy Act (2019) and accompanying frameworks, such as the Feed-in Tariff (FiT) Policy, net metering, and the establishment of the Rural Electrification and Renewable Energy Corporation (REREC), ushered in structural reforms that decentralised energy planning and invited private-sector participation. These efforts catalysed investments through independent power producers (IPPs), most notably in geothermal and wind projects like the Lake Turkana Wind Power Project. However, Kenya's energy sector continues to exhibit challenges: public parastatals retain monopolistic control, while small, medium, and micro enterprises (SMMEs) face persistent barriers to capital, technology, and procurement opportunities.

Furthermore, despite policy progress, localisation of renewable energy manufacturing and services remains limited, constraining Kenya's potential to anchor industrialisation within its clean-energy transformation. The JET project seeks to address these gaps by identifying entry points for domestic value creation and by ensuring that Kenyan firms, workers, and institutions actively participate in and benefit from the renewable energy economy. This includes strengthening local supply chains, promoting homegrown manufacturing capacity, and expanding equitable access to training and employment opportunities across genders and social groups.

A defining pillar of JET is decent work, anchored in fair labour practices, occupational safety, social protection, and adequate remuneration. By embedding decent work principles across renewable energy sectors, JET advances a vision of green jobs that are safe, fair, and sustainable, encompassing both formal and informal economies. Another foundational pillar is gender equity and social inclusion. In Kenya, women, youth, and persons with disabilities often face systemic barriers to land, capital, and technology, limiting their participation in the energy transition. The Gender Policy in Energy (2019) and related national frameworks provide the foundation upon which JET advocates for inclusive value chains through gender-responsive budgeting, representation in technical and leadership roles, and targeted capacity-building initiatives.

Ultimately, the JET project is not only a technological and environmental initiative but also a socio-political and economic reform agenda one that envisions clean energy as a catalyst for prosperity, resilience, and equity. Since 2023, the African Centre for Technology Studies (ACTS), in partnership with national and regional stakeholders, has undertaken a comprehensive programme of research and policy engagement to contextualise Just Energy Transition (JET) principles within Kenya's renewable-energy sector. The initiative has combined policy analysis through dialogues, and field research by means of key informant interviews (KIIs) across nine counties. This was designed to capture the lived realities, institutional dynamics, and policy bottlenecks shaping Kenya's transition to clean energy.

Through three Regional Policy Dialogues held in Coastal Kenya, Central Kenya, and Western Kenya, ACTS convened a diverse network of policymakers, SMME owners, industry practitioners, researchers, and civil-society actors to interrogate what a "just" transition means in practice. While these generated rich, region-specific insights, this consolidated report moves a step further. It synthesises the three regional policy dialogues into a single national narrative that identifies cross-cutting trends, systemic barriers, and transformative opportunities. The analysis not only integrates diverse stakeholder voices but also translates them into actionable policy pathways. In doing so, the report bridges the gap between local evidence and national strategy, positioning ACTS as a key knowledge broker in shaping a fair and inclusive future for the renewable energy sector.

The JET project adopts a systems-wide approach that integrates research, policy engagement, and community-level dialogue. Its implementation combines policy scans, comparative surveys, key-informant interviews, and multi-stakeholder dialogues to surface the institutional, economic, and social dimensions of Kenya's just transition.

This consolidated report synthesises insights from three Regional Policy Dialogues held in Coastal, Central, and Western Kenya in June 2025 and brought together policymakers, industry experts, researchers, entrepreneurs, and community actors. It aims to:

1. Contextualise Kenya's energy transition within its evolving policy landscape and identify how existing frameworks facilitate or constrain justice, inclusion, and localisation.
2. Map Kenya's position in the Global Production Network (GPN) and assess how value, power, and embeddedness shape its renewable-energy value chains.
3. Integrate regional perspectives on SMME participation, decent work, gender equity, and inclusion of marginalised groups into a unified national synthesis.
4. Provide actionable policy recommendations and propose interventions that promote equitable participation, sustainable livelihoods, and locally driven industrialisation.

Through this synthesis, the report aims to inform both the National JET Policy Dialogue (2025) and broader policy design processes, translating empirical evidence from regional experiences into coherent strategies for an inclusive and locally embedded renewable-energy future.

The report is structured into five main sections:

1. **Section 1** introduces the context, rationale, and analytical framework of the consolidated study.
2. **Section 2** examines findings from Coastal Kenya, focusing on policy implementation and Kenya's position in the global production network.
3. **Section 3** explores Central Kenya, highlighting industrial linkages, skills, and governance dynamics.
4. **Section 4** analyses Western Kenya, known for its grassroots innovation and community-driven renewable-energy initiatives.
5. **Section 5** synthesises cross-regional insights and outlines Next Steps, identifying national-level priorities to guide the upcoming policy dialogue and future programming.

Together, these sections present a coherent, evidence-based account of how Kenya can translate its renewable energy leadership into an equitable, inclusive, and locally embedded Just Energy Transition.

2 Coastal Kenya Policy Dialogue

Figure 1: Coastal Kenya Policy Dialogue Stakeholder Engagement

2.1 Dialogue Structure

The Just Energy Transition Policy Dialogue took place on the 11th of June 2025 at Sapphire Hotel in Mombasa. It was structured into two main sessions, each designed to facilitate comprehensive discussions on key objectives related to energy transition policies. Dr. Joel Onyango opened the dialogue with formal introductions and set the tone for the discussions. Stakeholders took part in an ideation activity whereby within groups they came up with ideas for names of potential coalition groups should they have to form a collaborative coalition to help spur the Just Transition forward. In addition to this, stakeholders gave their insights on three key questions:

1. How we can influence policy outcomes
2. How we can empower stakeholders in the renewable energy sector
3. How we can build an inclusive regional network

Norah Ouma presented and facilitated discussions on the first objective: insights from policy scans. The policy scan provides a critical analysis of the country's policy architecture in relation to localisation, decent work, gender equity, sustainable livelihoods, and the capacity development of medium enterprises (MEs) within the renewable energy sector. This was followed by a participatory activity that encouraged stakeholders to answer the following question on placards: "What would you like to see in a Just Energy Governance."

Stakeholders were urged to think critically and give insights on the meaning of Value, Power and Embeddedness in relation to the renewable energy sector, and how these three factors apply locally. This led into a guided discussion by Gillian Faith on Kenya's position in the Global Production Network (GPN), and Kenya's role in global energy transition frameworks.

The first session ended with a presentation by Japheth Kang'ethe, on the Key Informant Interview (KII) findings. This involved gathering insights from participants on the five main themes i.e.; Localisation, SMMEs, Decent Work, Gender Equity and Marginalized Groups, via a set of pre-selected questions that urged stakeholders to think critically about the current state of the renewable energy sector, as well as where we are headed with the Just Transition.

The second session featured interactive group discussions, to address policy gaps, interventions, and actionable steps for a just energy transition. The policy dialogue session concluded with closing remarks.

2.2 Participants

1. Government agencies (e.g., KPLC, Kilifi Water and Sewerage, Kilifi County Government)
2. Civil society organizations and NGOs (e.g; EmpowerNet)
3. Private sector and SMMEs (e.g; Techbridge, Kuza Freezers, Migas Renewable Energy)
4. Academic Institutions (e.g; Pwani University)
5. Community-based organizations (e.g; ISAK)

2.3 Session Highlights and Key Insights

2.3.1 Opening and Theme Setting

The policy dialogue session opened with an introductory presentation by Dr. Joel Onyango, who introduced the Just Energy Transition (JET) project. The presentation set the thematic and analytical tone for the dialogue by outlining the objectives, context, and expected outcomes of the ongoing JET research project.

2.3.2 Problem Statement and Justification

Dr. Joel highlighted the complex and contested nature of the energy transition, noting that while it holds significant potential for economic transformation and climate resilience, it also poses substantial risks. Among the challenges outlined were:

- Job losses in fossil fuel-dependent sectors.
- Disruption to existing local economies without safeguards that promote decent work.
- Undermining of localisation if renewable energy technologies continue to be mostly imported.
- Replication of existing inequalities within the Just Transition, particularly gender-based inequities.
- Rising of informal employment without protection for workers, if the transition is not deliberately managed.

2.3.3 Opportunities Identified

Despite the risks, there are several strategic opportunities available in Kenya if the transition is properly harnessed:

1. Local and global resource mobilisation for renewable energy investments.
2. Green industrialisation, particularly through local manufacturing and innovation in clean technologies.
3. Promotion of Decent Work, ensuring that RE jobs are formal, safe, and fairly remunerated.
4. Expansion of Domestic Value Chains, especially through SMME inclusion in production and service delivery.
5. Addressing marginalization, through intentional policy design and capacity building for marginalised groups (youth, women, PWDs).
6. Implementing employment rights and protections to reduce job insecurity in the transition to a green economy.

2.3.4 Approaches and Activities

Dr. Joel outlined the methodology of the project, which includes:

- Data collection in the form of Key Informant Interviews, Field Surveys.
- Stakeholder engagement through a series of policy dialogue sessions.
- Case study development in three regions - Coastal Kenya, Western Kenya and Central Kenya.
- Research-to-policy translation through evidence-based recommendations.

He emphasised that the project is both analytical and participatory, leveraging the expertise of national and local stakeholders to co-create solutions that are contextually relevant and equity-driven.

2.3.5 Expected Outcomes

The presentation concluded with an outline of the project's expected deliverables:

- Policy briefs and technical reports on just transition dimensions.
- A strengthened evidence base to inform inclusive energy policies.
- Institutional learning when it comes to embedding just transition principles in Kenya's national and sub-national policy frameworks.

2.3.6 Ideation Session

Dr. Joel led stakeholders in an ideation activity whereby within groups they came up with ideas for names of potential coalition groups should they have to form a collaborative coalition to help spur the Just Transition forward. The following names were suggested for the Just Transition coalition:

1. **Just Energy Empowerment Association (JEEA)** – with stakeholders highlighting that a transition to renewable energy requires that stakeholders are empowered through associations.
2. **Just Affordable Energy** – with stakeholders emphasizing that the just transition be inclusive
3. **ELSID Network** – which stands for "Energy, Localisation, SMME, Inclusion and Decent Work", ensuring that all the key themes/elements of the Just Transition are represented/included.
4. **Renewable Energy Association of Kenya** – speaking to the need to create collaborative associations.
5. **Muungano wa Hifadhi wa Kawi Safi** – highlighting the green/clean energy aspect of the Just Transition.
6. **Shift Power** – demonstrating the need to "shift" from fossil fuels to renewable energy as well as the power/capability to make this transition.

Stakeholders had an opportunity to select which name out of the six suggested, best reflects their priorities and would be best suited for a coalition name. Shift Power emerged as the most popular name for the coalition out of the six suggested. Subsequently, stakeholders engaged in a strategic ideation session where they addressed three crucial questions:

1. How can we influence policy outcomes?
2. How can we empower stakeholders?
3. How can we build an inclusive regional network?

Strategies for Advancing a Just Energy Transition in Kenya

1. **Influencing Policy Outcomes**

To shape favorable and equitable policy frameworks for renewable energy and just transition, stakeholders recommended the following strategies:

- **Stakeholder Mapping and Engagement:** Identify and engage key policymakers and institutions at both national and county levels through structured dialogue platforms.
- **Advocacy Coalitions:** Form advocacy groups and multi-sector coalitions to champion progressive, inclusive energy policies.
- **Evidence-Based Partnerships:** Partner with local representatives and community leaders to ground advocacy efforts in the lived realities of communities and renewable energy practitioners.
- **Inclusive Policymaking:** Actively involve diverse stakeholders, including women, youth, and marginalized groups, in policy formulation and implementation processes.
- **Government Participation:** Ensure coordinated participation of both national and county governments in just transition conversations and planning.
- **Strategic Communication:** Utilize media channels to raise awareness, amplify community voices, and hold policymakers accountable.
- **Decentralized Policy Creation:** Promote devolution of energy governance by encouraging decentralized, community-driven policy development.
- **Policy Monitoring and Review:** Track and assess the performance of existing policies to identify implementation gaps and opportunities for reform.
- **Community Participation:** Facilitate the full participation of local populations in discussions and decisions related to clean energy access and sustainability.

2. **Empowering Stakeholders**

Stakeholder empowerment is central to the success of Kenya's Just Energy Transition. Participants proposed the following approaches:

- **Capacity Building:** Offer structured training programs, seminars, short courses, and workshops on renewable energy technologies, entrepreneurship, and policy literacy.
- **Access to Information:** Provide clear, accessible, and context-relevant information on renewable energy opportunities, policy developments, and market trends.
- **Resource Mobilization:** Facilitate access to grants, subsidies, and financial resources to enable active stakeholder participation in clean energy projects.
- **Education and Advocacy:** Strengthen awareness campaigns to promote energy literacy and stimulate public demand for sustainable energy solutions.
- **Stakeholder Networking:** Foster networks among renewable energy actors to share knowledge, scale innovation, and enhance collaboration.
- **Investor Engagement:** Encourage private sector investment in local RE institutions and grassroots initiatives to enhance sustainability.
- **Inclusive Training:** Prioritize training for women and youth, particularly in clean cooking, solar technologies, and installation services.
- **Support for Community Organizations:** Provide targeted funding and technical assistance to community-based organizations and cooperatives investing in renewable energy (e.g., biogas, solar, and clean cooking solutions).
- **Community-Led Development: I**ntegrate clean energy into local development planning and implementation through inclusive consultation and resource allocation.

3. **Building an Inclusive Regional Network**

An inclusive, regional network is essential for knowledge exchange, coordinated advocacy, and localized implementation of JET principles. Stakeholders proposed the following actions:

- **Stakeholder Mapping:** Identify and connect key actors from each county to ensure balanced regional representation.
- **Organizational Partnerships:** Collaborate with organizations that share values around decent work, social equity, and sustainable energy to scale impact.
- **Leverage Existing Networks:** Engage with established networks to learn from their experiences and ensure alignment with Just Transition objectives.
- **Government Collaboration:** Work closely with county energy departments to harmonize local initiatives with national strategies.
- **Research Partnerships:** Establish regional research consortia to support evidence-based policymaking and innovation in clean energy.
- **Multi-Stakeholder Platforms:** Develop formal platforms that bring together government, private sector, academia, civil society, and community groups.
- **Public and Private Sector Inclusion:** Ensure that both sectors actively participate in localization efforts and energy access expansion.
- **Community Engagement Tools:** Use public forums such as barazas and digital tools like social media to facilitate broad-based participation.
- **Indigenous Knowledge Recognition:** Acknowledge and integrate the knowledge systems and contributions of indigenous communities in the design and implementation of energy policies and programs.

2.4 Examining Kenya's Renewable Energy Policy Landscape

Norah Ouma delivered a presentation summarizing key findings from a policy scan of Kenya's energy sector. The Policy Scan provides a critical analysis of the country's policy architecture in relation to localisation, decent work, SMMEs, gender equity, and sustainable livelihoods, within the renewable energy sector. The scan underscores Kenya's impressive strides in renewable energy while illuminating critical gaps that must be addressed to achieve a just and inclusive energy transition. This presentation highlighted the following:

2.4.1 Context

With around 90% of its electricity coming from clean sources like geothermal, hydro, wind, and solar, Kenya is a leader in renewable energy in Sub-Saharan Africa. By 2030, the nation aims to generate all of its electricity from renewable sources and cut greenhouse gas emissions by 32%. Poverty, gender inequality, low local capacity, high levels of informal employment, and barriers when it comes to the growth of SMMEs are still major structural issues in Kenya despite these advancements. The energy transition runs the risk of escalating already-existing disparities unless intentional policy intervention is made.

2.4.2 Findings

Energy Sector Reforms and Policy Framework
Kenya has experienced significant reforms since the 1990s, notably the Energy Act of 2019, which introduced progressive elements such as net metering and the promotion of renewable energy. Despite these advances, implementation remains fragmented, with weak enforcement of localisation mandates and inconsistent support for inclusive participation.

Industrialisation and Local Content
Key policy instruments including Vision 2030, the Big Four Agenda, and the Kenya Industrial Transformation Programme seek to accelerate industrial growth and reduce import dependency. However, the renewable energy sector continues to be heavily reliant on foreign technology and capital, with minimal domestic manufacturing of critical components.

Support for Medium and Small Enterprises
Although policy documents such as the National Industrial Policy Framework there exist provisions for frameworks for support, including special economic zones and industrial parks, practical outcomes have been limited. Challenges such as bureaucratic delays, financing constraints, and lack of sector-specific support remain significant barriers.

Gender Equality and Workers' Rights
Kenya's constitutional and policy frameworks, including the Gender Policy in Energy (2019) and Vision 2030, affirm commitments to gender equality and inclusion. However, societal norms, insufficient funding, and weak policy implementation, impede meaningful progress. Additionally, while workers' rights are protected by law, enforcement gaps, and limited union representation reduce their effectiveness.

Renewable Energy Deployment and Local Industry
The sector shows robust innovation and deployment of renewable energy technologies, yet the local industry is constrained by limited manufacturing capacity, dependence on imports, and inconsistent policy incentives. Addressing these gaps will require enhanced policy coherence, stable fiscal and regulatory environments, and targeted support for local innovation ecosystems.

2.4.3 Stakeholder Perspectives on a Just Energy Governance

Following the presentation by Norah Ouma, the policy dialogue session featured a plenary activity where stakeholders were invited to express their views on the question:

"What would you like to see in a just energy governance?"

Participants recorded their responses on placards, reflecting diverse priorities and expectations for energy governance in Kenya. The key themes emerging from the responses included:

1. **Financial and Fiscal Support Mechanisms**

- Enhanced financial support from the government to accelerate renewable energy adoption.
- Reinstatement and expansion of VAT exemptions on renewable energy technologies to improve affordability and accessibility.
- Increased funding for grassroots innovators and local entrepreneurs engaged in green energy solutions.

2. **Access to Appropriate Technologies**
- Provision of modern and efficient renewable energy technologies to improve productivity and quality of work, especially in rural and marginalized areas.
- Support for local manufacturing of renewable energy components such as solar panels to reduce dependence on imports and enhance affordability.

3. **Capacity Building and Skills Development**
- Targeted training programs to build technical and entrepreneurial skills, particularly for women, youth, and rural populations.
- Strategic empowerment of stakeholders such as; technicians, entrepreneurs, and community actors, as key players in the transition.
- Establishment of intergovernmental exchange programs for knowledge and technology transfer.

4. **Employment Creation and Decent Work**
- Creation of more jobs across the renewable energy value chain, with an emphasis on quality, security, and formalization.
- Engagement of the Ministry of Labour and relevant agencies to embed decent work standards in energy sector reforms.

5. **Effective and Inclusive Policy Frameworks**
- Development of result-oriented, evidence-based policies at both national and county levels to support energy access, equity, and sustainability.
- Clear alignment of energy policy with community development, industrialization, and climate resilience objectives.

6. **Multi-Stakeholder Collaboration and Public Participation**
- Promotion of strong public-private partnerships to drive investment, innovation, and service delivery in renewable energy projects.
- Inclusive policy-making processes that ensure the meaningful involvement of all stakeholders, including end-users, community groups, and indigenous peoples, through structured public participation forums.
- Institutionalized platforms for the engagement of qualified experts and technical professionals in shaping Just Transition strategies.

7. **Gender Equity and Inclusion**
- Equal opportunities for women in all aspects of the energy transition, including technical training, leadership, and entrepreneurship.
- Targeted empowerment of women to build skills and confidence in areas such as green energy installations and maintenance.

8. **Support for Research and Innovation**
- Greater investment in research and development to support locally adapted renewable energy solutions and policy innovation.
- Recognition and support for grassroots innovation as a critical driver of sustainable energy access.

9. **Awareness and Consumer Education**
- Intensified awareness campaigns to educate communities on the benefits and opportunities presented by green energy.
- Consumer sensitization to ensure informed decision-making and greater uptake of clean energy solutions.

2.5 Kenya's Role in the Global Production Network

The second presentation of the policy dialogue session focused on Kenya's position in the Global Production Networks (GPNs). The presentation built on earlier discussions about localisation, decent work, and industrial capability by offering an in-depth technical analysis of how Kenya is currently integrated into global renewable energy supply chains.

2.5.1 Objective and Methodology

The GPN mapping aimed to identify the stages of value creation, capture, and distribution for solar and wind technologies in Kenya. The study examined:

- Activities-based value chain mapping (e.g., R&D, manufacturing, installation, operations & maintenance, and recycling).
- Input-manufacturing-end-of-life mapping, tracking the flow of materials, technological processes, and labour involvement across each phase.

This structured analysis provided a comprehensive picture of Kenya's industrial and economic engagement in the green energy transition.

2.5.2 Key Findings

The Global Production Network (GPN) mapping for solar panels reveals that China supplies over 98% of Kenya's solar subcomponents. Kenya remains almost entirely dependent on imports for upstream and core solar components such as polysilicon, ingots, wafers, and cells. Local companies, are limited to downstream activities like marketing, distribution, and installation, as well as manually assembling imported parts into modules. Consequently, Kenya's involvement in the solar panel value chain is confined to low-value functions, lacking manufacturing infrastructure and research and development capabilities for solar subcomponents. The government institutions engaged in this sector include the Energy and Petroleum Regulatory Authority (EPRA), Kenya Bureau of Standards (KEBS), and the Ministry of Energy, alongside civil society organizations such as the Kenya Renewable Energy Association (KEREA). Key industry players comprise companies like M-KOPA, Davis & Shirtliff, Kenya Solar Energy Ltd. (KENSEN), as well as investors such as Norfund.

When it comes to the wind sector, almost all high-value component manufacturing occurs outside Kenya, predominantly in countries such as China, Germany, Denmark, and the United States. These nations produce critical components including rotor blades, nacelles, gearboxes, and yaw systems. Kenyan firms such as Devki Steel Mills and Kenya Builders & Concrete Co. Ltd. contribute mainly by supplying tower foundations and structural elements, including concrete bases and steel parts. Local project developers like Lake Turkana Wind Power and Kipeto Energy PLC manage project implementation, while leading original equipment manufacturers (OEMs) serving Kenya's wind industry include Vestas, GE, Nordex, and CMEC. The ecosystem supporting this sector comprises policy actors such as the Ministry of Energy and EPRA, project developers, EPC companies, financiers like the African Development Bank (AfDB) and the World Bank, as well as training institutions including Jomo Kenyatta University of Agriculture and Technology (JKUAT), Technical and Vocational Education and Training (TVET) centers, and the Strathmore Energy Research Centre.

2.5.3 Stakeholders' Contextualization of Value, Power and Embeddedness

As part of the policy dialogue session, stakeholders engaged in a participatory discussion to contextualize and interpret the concepts of Value, Power, and Embeddedness within Kenya's renewable energy landscape. These dimensions, central to the Global Production Network (GPN), were translated into Kiswahili to enhance accessibility and ensure culturally grounded interpretations.

- **Value – Thamani:** The benefits created and retained across the renewable energy value chain (economic, environmental, and social).
- **Power – Uwezo:** The capacity to control decisions, dictate terms, influence pricing, or shape outcomes in the value chain.
- **Embeddedness – Utangamano/Kuuoana:** The degree to which local actors, institutions, and systems are integrated and rooted in renewable energy processes.

Stakeholders then explored how these concepts manifest in local realities, influencing Kenya's position in global value chains.

1. Value

Stakeholders recognized that Kenya's current contribution to value creation in the RE sector is limited, but exists in several critical stages:

- Assembly and Integration: Local firms operate mainly as assemblers of imported solar components (e.g., panels, inverters, batteries).
- Distribution and Installation: Kenyan companies are actively involved in logistics, system installation, and sales of RE products.
- Maintenance and End-of-Life Management: Local technicians handle maintenance and disposal, though formal systems are still emerging.
- Feedback and Consumption: Kenyan consumers provide market feedback, shaping product demand and energy use trends.
- Negative Policy Effects: Harmful or inconsistent policies (e.g., reintroduction of VAT on solar equipment) discourages investment and lower energy demand, limiting private sector growth.
- Low Energy Consumption: Despite available generation capacity, demand remains low due to investor flight driven by restrictive policies.

Despite these roles, stakeholders noted that most high-value manufacturing and technology development remains offshore, primarily in China, and that Kenya lacks the capacity to influence pricing or design. The country's value capture is thus concentrated in lower-value, labor-intensive segments.

2. Power

Power was discussed in relation to decision-making authority and market dominance in the renewable energy value chain. Examples shared by participants included:

- Foreign Original Equipment Manufacturers (OEMs), such as Jinko Solar (China), dominate upstream manufacturing and control pricing and product specifications.
- A stakeholder from Kuza Freezers noted that imported solar panels arrive already branded and priced by Chinese firms, illustrating Kenya's limited influence over product design or cost.
- Local businesses and consumers remain price takers, dependent on external markets and unable to negotiate favorable terms or access proprietary technology.
- Barriers to Localization: A German firm seeking to localize manufacturing in Kilifi faced major challenges including bureaucracy, corruption, limited capacity, and public skepticism.
- Lack of Government Support: Entrepreneurs lack access to startup capital, while policy frameworks are often rigid, exclusionary, or non-responsive to local innovation.

3. Embeddedness

Stakeholders discussed embeddedness as the extent to which Kenya's renewable energy ecosystem is locally grounded in domestic capabilities, institutions, infrastructure, and community-level adoption. However, their reflections also highlighted how challenges of embeddedness are often shaped by institutional power relations and value constraints within the broader production network.

Key observations included:

A. Network Embeddedness

- Limited Local R&D and Innovation Support: While individual innovators exist (e.g., a Strathmore University lecturer who built his own inverter), institutional support for research and prototyping remains minimal.

B. Territorial Embeddedness

- Grid Limitations: Kenya's current grid infrastructure may not be adequate to support a robust local manufacturing base for RE technologies.
- Disconnect Between Policy and Grassroots Needs: Stakeholders stressed that policies are often developed without grassroots consultation, resulting in poor adoption and weak impact.

Participants argued for a bottom-up approach to policymaking, whereby communities are empowered to understand and shape the energy transition. This includes:

- Educating grassroots communities on RE benefits.
- Involving local voices in policy design and planning.
- Empowering citizens to hold policymakers accountable.
- Recognizing the difference between ideal policies and lived realities, where local actors are at the mercy of global market forces.

2.5.4 Strategies for Advancing Up the GPN and Localization Priorities

Following the discussion on Kenya's positioning in global renewable energy supply chains, stakeholders critically examined the question:

"How can Kenya move to higher levels of the Global Production Network?"

Stakeholders offered several strategic interventions to reposition Kenya within the global renewable energy value chain:

- **Invest in Local Innovation and Reward Creativity:** Support for local inventors and engineers was seen as essential. Stakeholders proposed the creation of innovation financing schemes and recognition awards for outstanding contributions in renewable energy technology, to encourage a culture of problem-solving and creativity.
- **Redefine Localization to Include Ownership:** Participants emphasized that localization is not merely about producing components within national borders, but also about local ownership and control across the value chain. This includes ownership of patents, manufacturing processes, and distribution system, ensuring that economic value stays within Kenya.
- **Address the Lack of Political Goodwill:** A recurring concern was the absence of sustained political commitment to support local manufacturing and innovation. Stakeholders noted that support from the political class, is crucial to mobilize resources, protect emerging industries, and implement bold policy shifts.

- **Build Technical Capacity through Research and Design:** Even assuming capital and infrastructure were available, stakeholders acknowledged that technical skill gaps remain a major bottleneck. Therefore, long-term investment in local research and design (R&D) was strongly recommended, alongside partnerships with academic institutions and technical training programs.
- **Utilize Imported Raw Materials Strategically**: In the short-to-medium term, Kenya could import raw materials and process them locally as an entry point into manufacturing. However, this would require targeted support to build domestic capabilities in industrial processing, quality assurance, and equipment handling.

Priority Components for Localization

In exploring which renewable energy components could be feasibly localized first, stakeholders identified:

- **Aluminium Components:** Given aluminium's versatility and local availability, it was seen as a viable starting point for localization particularly for parts such as solar panel frames and wind turbines.
- **Regional Collaboration on Raw Materials:** Participants called for cross-border collaboration with neighboring countries such as Tanzania (nickel and cobalt) and DRC (rare earth elements) to form a regional renewable energy manufacturing hub. Leveraging regional strengths would reduce dependency on Asian and Western suppliers.

2.5.5 Conclusion

As the discussion drew to a close, stakeholders raised critical reflections on the gap between localisation in theory and localisation in practice, particularly referencing the Lake Turkana Wind Power Project. The project, funded and led by a foreign consortium (primarily from Denmark), was described as an example of non-localized ownership. While the project used local labor for casual, low-wage tasks, it did not create long-term value or control for the host community. Participants stressed that true localization must go beyond employment at the lowest levels. It must involve strategies that enable Kenyan stakeholders i.e.; communities, enterprises, and institutions, to own, lead, and benefit from projects at all levels of the energy value chain.

2.6 Findings from High-Level Comparative Survey

Japheth presented key findings from a comparative analysis that examined the findings from qualitative research conducted across Kenya's Central, Western, and Coastal regions. This research focused on the localization of renewable energy value chains, the participation of Small, Medium, and Micro Enterprises (SMMEs), decent work conditions, gender equity, and the inclusion of marginalized groups within Kenya's energy transition. Key highlights from Japheth's presentation include:

2.6.1 Key Themes

Regional variations were evident, with Western Kenya demonstrating high localization in hybrid solar systems (85-90%), Coastal Kenya focusing on solar panel assembly and clean cooking, and Central Kenya expressing interest in local assembly but facing challenges such as fake imports and dependence on imported technology. Across regions, barriers include poor skills transfer, limited local manufacturing capacity, financial constraints, and policy bottlenecks.

SMME Participation
SMMEs play vital roles in distribution, installation, and innovation, with notable grassroots entrepreneurship, and localized distribution efforts. However, systemic barriers such as limited financing, weak policy support, and competitive pressures continue to restrict growth.

Decent Work and Employment
Jobs created in the sector include installation technicians, marketing agents, and entrepreneurs. Despite these opportunities, decent work gaps persist, including informal work arrangements, low pay, limited union representation, safety concerns, and gendered job roles with harassment issues in some regions.

Gender Equity
Progress has been made through women-led initiatives and supportive policies like the Gender Policy in Energy. Nonetheless, cultural norms, workplace harassment, and underrepresentation in technical roles remain significant challenges.

Inclusion of Marginalized Groups
Community empowerment and improved energy access have been positive outcomes; however, limited participation in policymaking, socio-cultural barriers, environmental risks, and insufficient labor protections highlight areas needing improvement.

2.6.2 Plenary Session

Following Japheth's presentation, a plenary session was held where stakeholders engaged in a dynamic discussion responding to critical questions about challenges and solutions related to localisation, skills development, gender inclusion, and SMME participation in Kenya's renewable energy sector. The key points raised are summarized below:

1. **Why do you think the government is not involving stakeholders adequately, and how can this problem of localisation be solved?**

- Corruption and vested interests hinder genuine stakeholder involvement. To address this, corrupt practices must be curtailed, and stronger policy frameworks are needed to prevent centralized control and promote decentralization.
- Existing policies lack effective structures to ensure inclusive participation and localisation.

2. **Why do you think there is a limited skillset for localisation in renewable energy?**

- Many professionals come from fossil fuel backgrounds and lack the necessary skills to transition effectively to renewable energy technologies.
- The Energy and Petroleum Regulatory Authority (EPRA) licensing process is highly centralized (in Nairobi) and restrictive, requiring unnecessary experience and passing a difficult oral interview, which limits new entrants.
- Stakeholders suggested decentralizing licensing authority to other institutions such as NITA or Strathmore University to reduce monopoly and potential corruption/bureaucratic barriers.
- Instances were also noted where some licensed individuals may not be adequately qualified, pointing to corruption in licensing.

3. **Why do you think there is a prevalence of fake imports in the renewable energy sector, and how can this be addressed?**

- A key issue identified was the lack of stringent quality control measures to prevent the influx of counterfeit products. Strengthening quality assurance and enforcement mechanisms was recommended.

4. **Why is there limited involvement of women in STEM fields related to renewable energy?**

- The sector is perceived as male-dominated and technically demanding, with physically intensive tasks (e.g., wind turbine installation) discouraging female participation.
- Prevailing gender norms and societal expectations also deter women from pursuing STEM education and careers in renewable energy.
- Some women may simply have different career interests or lack encouragement to enter these fields.

5. **What can be done to ensure greater involvement of SMMEs in renewable energy?**

- There is a significant knowledge gap among SMMEs about existing incentives and opportunities; therefore, increased awareness creation is necessary.
- Lack of local financial investment and support limits SMME growth; enhancing access to finance is critical.
- Promoting local manufacturing could strengthen value chains and create more opportunities for SMME participation in the renewable energy sector.

2.7 Stakeholder Engagement and Group Discussions

This session, moderated by Gillian Faith facilitated a group discussion focusing on key priorities and actionable takeaways related to localisation, value chain positioning, policy gaps, and sustainability in Kenya's renewable energy (RE) sector. The main points from stakeholder contributions are summarized below:

1. **Priorities in Localisation and Key Takeaways**

- Licensing and regulatory functions currently monopolized by EPRA, despite mandates under the Energy Act 2019 placing them with county governments. Stakeholders emphasized the urgent need to establish additional licensing bodies within the counties, to decentralize this process and remove bottlenecks. The current situation where trained professionals are denied licenses by EPRA is a major concern.
- Strengthening county-level involvement through integrated development plans and ensuring grassroots participation in decision-making processes were highlighted as critical priorities.

2. **Enhancing Kenya's Position on the Renewable Energy Value Chain**

- Intentional and prioritized approaches are needed to involve grassroots actors meaningfully, especially through participatory planning at the county level.
- Multistakeholder collaboration and continuous capacity building through training of on-the-ground technical workers, who possess important practical, nuanced knowledge, are essential to advancing localisation.
- Deliberate investment in research on raw materials is necessary to reduce import dependence and strengthen local manufacturing.

3. **Recommendations to Government to Promote Localisation**

- Focused investment in research and education tailored by practitioners with direct field experience.
- Promotion of strong multi-sectoral partnerships including civil society organizations (CSOs), private sector, and government agencies.
- Supporting continuous skills development and knowledge transfer to build a resilient local workforce.

4. **Untapped Opportunities and Priorities in Renewable Energy Policy**

- Innovative marketing strategies for local actors in the renewable energy space to boost visibility and market access.
- Enhanced engagement of CSOs in the energy sector as part of climate action efforts, leveraging their networks to support communities.
- Public-Private Partnerships (PPPs) were identified as potential solutions to inefficiencies in installation and maintenance, contributing to long-term sector sustainability.
- Greater focus on harnessing the full potential of Kenya's natural resources beyond current limited utilization.

5. **Addressing Inclusion Beyond Traditional Marginalized Groups**

- Stakeholders noted that while Kenya Power strives to extend energy access countrywide, marginalized groups often remain overlooked. There is a call for more inclusive targeting in energy access and development initiatives.

6. **Ensuring Long-Term Sustainability of Renewable Energy and the Just Energy Transition**

- Institutionalizing consistent training programs and integrating renewable energy knowledge into higher education and Technical and Vocational Education and Training (TVET) curricula.
- Fostering collaboration to ensure ongoing maintenance of renewable energy infrastructure.
- Adopting a holistic approach that incorporates various renewable energy sources, not solely focusing on solar energy, to ensure a diversified and sustainable energy future.

2.8 Key Outcomes and Recommendations

2.8.1 Transformative Progress in Renewable Energy Undermined by Persistent Structural Inequities

Kenya has achieved significant success in scaling renewable energy, with over 90% of electricity generated from clean sources. However, this progress masks deep-seated structural inequities. Public utilities maintain monopolistic dominance in power generation and distribution, while the private sector, particularly SMMEs, struggles to penetrate the sector due to restrictive regulatory frameworks, lack of access to capital, and exclusion from procurement systems. Furthermore, localization mandates remain poorly enforced, resulting in continued dependency on foreign technology and minimal domestic value addition.

Recommendations

1. **Build Technical Capacity and Local Expertise:** Invest in specialized training programs and partnerships with local educational institutions to develop the skills and technical expertise required for domestic manufacturing, installation, and maintenance of renewable energy systems.
2. **Enhance Community Ownership and Benefit-Sharing Mechanisms:** Develop policies that require renewable energy projects to include community ownership models such as cooperatives that ensure that local communities receive direct social and economic benefits from project revenues.

3. **Public Sector Reform:** Restructure parastatal frameworks to create space/garner input from private sector and community-based actors.
4. **Promote Technology Transfer and Domestic Innovation:** Incentivize partnerships between foreign technology providers and local firms or research institutions to facilitate knowledge transfer, local adaptation of technologies, and economic growth.
5. **Fiscal Incentives:** Offer tax breaks, VAT exemptions, or loans to local SMME firms, especially those led by youth and women.

2.8.2 Kenya's Marginal Role in the Global Renewable Energy Value Chain

Despite its status as a regional renewable energy leader, Kenya remains at the periphery of global production networks (GPNs). The country imports almost all upstream components of solar and wind technologies, with local firms relegated to low-value activities such as assembly, distribution, and maintenance. There is minimal domestic capacity for R&D, component manufacturing, or high-tech innovation. This dependency not only limits value capture but also undermines national energy sovereignty and economic resilience.

Recommendations

1. **Incentivize High-Value Domestic Manufacturing**: Introduce targeted incentives such as tax holidays and infrastructure support for domestic and international firms that invest in high-value component manufacturing and advanced assembly lines within Kenya.
2. **Strategic R&D Investment:** Establish regional renewable energy R&D hubs in partnership with universities, technical institutions (TVETs), and private innovators.
3. **Regional Integration:** Engage in cross-border industrial cooperation with East African neighbours to pool resources, harmonize standards, and co-develop renewable energy manufacturing clusters.
4. **Facilitate Innovation through Public-Private Partnerships:** Launch initiatives to support collaborative projects between Kenyan start-ups, established firms, and global technology leaders focused on developing and patenting renewable energy technologies locally.
5. **Skill and Technology Transfer Agreements:** Embed local capacity-building requirements in foreign investment deals, ensuring that technology and knowledge are transferred to Kenyan institutions and firms.

2.8.3 Exclusion of Marginalized Groups from the Energy Transition

While national energy policies express commitment to gender and social inclusion, the implementation landscape remains unequal. Women, youth, persons with disabilities (PWDs), and pastoralist communities continue to face systemic barriers to participation in the RE sector. Cultural biases, lack of targeted training, unsafe workplaces, and limited representation in leadership roles further entrench exclusion.

Recommendations

1. **Implement Equity-Based Access Policies:** Develop policy instruments that prioritize access to renewable energy resources, infrastructure, and services for marginalized regions and populations, including dedicated funding mechanisms for off-grid and last-mile solutions in underserved communities.

2. **Expand Inclusive Training Pathways:** Fund technical training programs and apprenticeships tailored to women, youth, and PWDs in solar, wind sectors.
3. **Support Women- and Youth-Led Enterprises:** Allocate dedicated grants to enterprises owned or led by women and youth.
4. **Enforce Anti-Discrimination and Safe Workplace Legislation:** Strengthen legal protections against discrimination in recruitment, retention, and advancement within the renewable energy sector. Mandate safe, accessible, and inclusive work environments tailored to the needs of women, PWDs, and other marginalized groups.

2.8.4 Stakeholder Disempowerment and Centralized Energy Governance

Stakeholders reported widespread exclusion from policymaking processes, citing opaque licensing regimes, centralized decision-making, and inconsistent stakeholder consultation. The Energy and Petroleum Regulatory Authority (EPRA) was identified as a bottleneck, with burdensome requirements and allegations of gatekeeping in licensing and certification. Community voices remain peripheral in shaping energy access and infrastructure development.

Recommendations

1. **Decentralize Energy Governance:** Enforce devolution mandates by empowering county governments to issue licenses and lead local energy planning.
2. **Establish Multi-Stakeholder Platforms:** Create formal, inclusive forums for dialogue between policymakers, communities, civil society, and private sector actors.
3. **Digital Transparency Tools:** Launch publicly accessible licensing portals and feedback systems to increase transparency and accountability.
4. **Build Policy Literacy:** Implement nationwide energy policy literacy campaigns to empower communities with the crucial knowledge.

2.8.5 Untapped Potential of SMMEs and Community Innovation

SMMEs play an essential role in RE deployment, particularly in last-mile distribution, clean cooking, and community-based solar systems. However, they face multiple constraints: limited access to finance, inadequate technical capacity, lack of visibility, and regulatory exclusion. Community innovators operate in isolation, and their contributions often go unrecognized by formal systems.

Recommendations

1. **Finance Tools:** Establish a RE focused financing tools with loan access, and business development support.
2. **Incubation Programs:** Create regional innovation hubs to incubate grassroots firms/enterprises dealing in RE technologies and skills development and link them to markets and policymakers.
3. **Create Public-Private-Community Partnerships (PPCPs):** Develop frameworks that incentivize partnerships between large energy firms, SMMEs, and community organizations to jointly deliver renewable energy projects, leveraging diverse expertise and fostering innovation at the grassroots level.

2.8.6 Technical Capacity Gaps Undermining Localisation and Sustainability

The technical skill base necessary to sustain Kenya's RE transition remains underdeveloped. Licensing regimes are inaccessible, training programs are insufficient, and curricula are poorly aligned with sectoral needs. This hinders the growth of a robust RE workforce and perpetuates reliance on foreign expertise.

Recommendations

1. **Curriculum Integration:** Embed RE content in education curriculums, at tertiary levels, with a focus on practical skills and innovation.
2. **TVET Strengthening:** Provide targeted investment in TVET infrastructure and training capacity.
3. **Licensing Reform:** Decentralize and streamline professional licensing through county based accredited institutions to reduce entry barriers.
4. **Intergovernmental Exchanges:** Facilitate regional and international technical exchanges to expose local experts to training opportunities, skills development and global best practices.

2.9 Conclusion

The Coastal Kenya Just Energy Transition Policy Dialogue reaffirmed that while Kenya's renewable energy journey is technically advanced, it remains socially uneven and structurally imbalanced. Achieving a just transition demands more than scaling green technologies—it requires transformative policy realignment, institutional reform, and community empowerment.

The report has illuminated critical insights: localization must mean ownership, not just assembly; decent work must be safeguarded at every level of the energy value chain; and marginalized voices—particularly women, youth, and PWDs—must be systematically included in governance and innovation processes. Additionally, the centralization of licensing and decision-making, coupled with bureaucratic inertia, continues to alienate the very actors who are best positioned to localize the transition—community innovators, local entrepreneurs, and technical workers.

To shift power in both literal and metaphorical terms, Kenya must invest in its people: through equitable education, inclusive policy-making, and strategic support for domestic industries. It must reimagine energy not just as a commodity, but as a public good—and the energy transition as a moment to rewire the economy for fairness, resilience, and sustainability.

This policy dialogue marks not an end, but a beginning—an invitation for continued collaboration, coalition-building, and policy action. The proposed "Shift Power" coalition should serve as a platform to advance this vision: one where renewable energy fuels not only a greener Kenya, but a more just one

3 Central Kenya Policy Dialogue

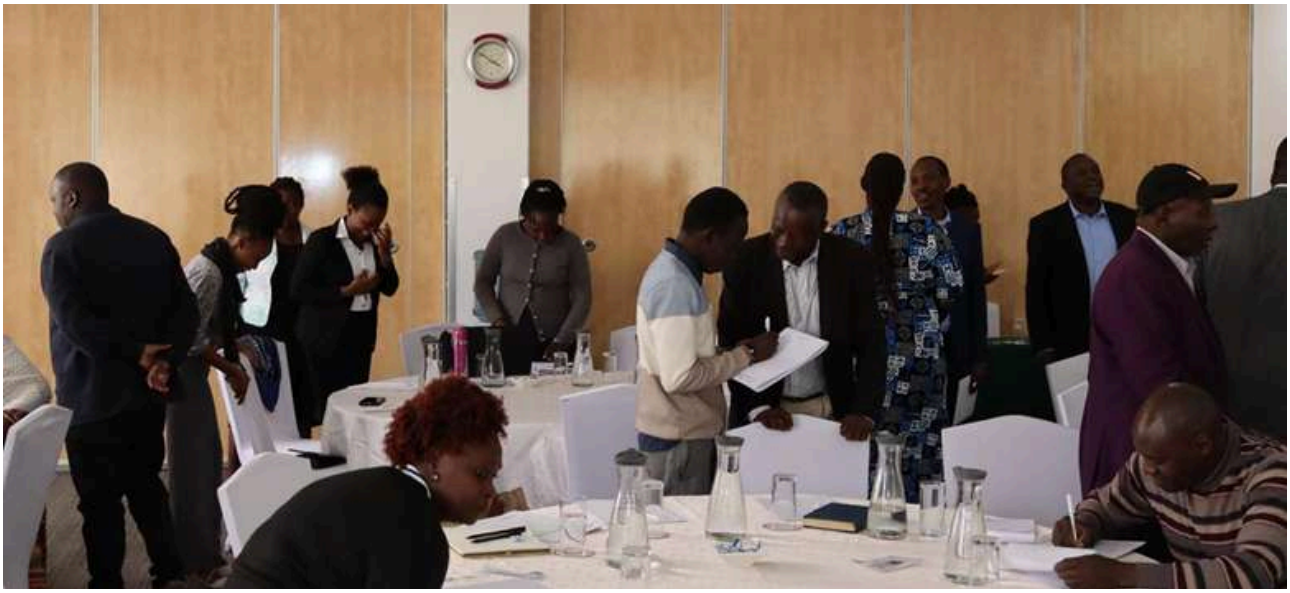


Figure 2: Central Kenya Policy Dialogue Introductions

3.1 Dialogue Structure

The Central Kenya Policy Dialogue was held on the 12th of June at Boma Hotel in Nairobi, Kenya. The first session began with a short video introducing the concept of JET. Participants were then invited to reflect on what JET means to them. Common themes included "equity," "sustainability," "clean growth," and "access for all."

One participant highlighted that just energy transition meant:

"To move from our traditional sources and move to sustainable solutions that are modern, and for this to create a fuel free environment."

JKUAT students and ISAK representatives emphasized the need for technical capacity, integration of indigenous knowledge, and inclusive governance in the energy space. The discussion revealed an awareness of the challenges in moving away from fossil fuels and a shared commitment to building a clean, people-centered energy system.

Gillian Faith led a discussion on Kenya's position in the Global Production Network (GPN), and Kenya's role in global energy transition frameworks. After this presentation, stakeholders had an opportunity to give their views on strategies for advancing a just transition in Kenya. In addition to this, stakeholders were prompted to come up with ways in which Kenya can move from downstream to upstream, in terms of value, power and embeddedness.

Norah Ouma presented and facilitated discussions on the Key Informant Interviews and the policy scan, and provided a critical analysis of the country's policy architecture in relation to localisation, decent work, gender equity, sustainable livelihoods, and the capacity development of medium enterprises (MEs) within the renewable energy sector.

The second segment was a plenary session that encouraged stakeholders to share their insights, experiences, and critiques based on the five core themes: Localisation, SMMEs, Decent Work, Gender Equity, and Sustainable Livelihoods. The policy dialogue session concluded with closing remarks.

3.2 Participants

1. Government agencies (e.g., State Department for Trade)
2. Academia (e.g., JKUAT, Strathmore University)
3. Civil society organizations and NGOs (e.g.; ILO, Practical Action, Vivify)
4. Private sector and SMMEs (e.g; E-Safiri, Alkebulan Energy, Women in Renewable Energy)
5. Community-based organizations (e.g.; ISAK)
6. Development partners (e.g., WRI)

3.3 Key Policy Themes

1. **Decent Work**

While Kenya's Constitution and labor laws promote fair employment, enforcement within the RE sector is limited. Workers are often employed on a casual or gig basis with little job security. Women and youth are rarely represented in skilled or technical positions.
Participants recommended:

- Establishing sector-specific labor standards.
- Promoting certification and recognition of skilled labor.
- Creating structured career pathways for RE workers.

2. **Gender Equity**

Despite increasing participation by women in RE initiatives, their presence in leadership, technical roles, and entrepreneurship remains low. Barriers include cultural norms, limited access to finance, and exclusion from technical training.

The *Gender Policy in Energy (2019)* was cited as a key document, yet implementation is rare. Participants called for:

- Gender-responsive budgeting.
- Targeted training programs for female technicians.
- Inclusion of women-led enterprises in procurement plans.

3. **SMMEs and Localization**

Kenya's RE sector relies heavily on imported technologies. Local enterprises face challenges such as limited access to finance, complex certification processes, and difficulty integrating into global value chains.

Recommendations included:

- Incentivizing local assembly and manufacturing of components (e.g., steel bases, solar panels, batteries).
- Establishing incubation hubs and supportive infrastructure.
- Creating financing schemes tailored to domestic RE enterprises.

4. **Sustainable Livelihoods**

Participants noted that energy access alone does not guarantee improved living standards. RE programs must integrate productive uses of energy like powering agro-processing units or micro-enterprises.

There is a strong call for:

- Alignment between energy and rural development initiatives.
- Programs that translate off-grid electrification into real economic opportunities.

Entry Points for Government Action

Participants highlighted the following:

Business Registration: The government should streamline procedures to encourage more RE enterprises to formalize.

- Tax Compliance: The government should simplify tax structures and clarify obligations for RE businesses.
- Inclusive Goal Setting: Involve key stakeholders including SMMEs, women's groups, and local communities in energy planning processes.
- Budget Reforms: Address inconsistencies in VAT exemptions and support for local manufacturing.

Challenges with Budget and Policy Implementation

- Most components in the RE value chain are no longer zero-rated, making local production less competitive.
- The Procurement Act lacks specifications for renewable energy procurement.
- Local manufacturers of solar components are not currently exempt from tax, despite their contribution to domestic value addition.

Key Questions Raised:

- **If I produce solar equipment locally, am I exempted from VAT?**

Currently, no existing policies do not support such exemptions, limiting the growth of local manufacturing.

- **Why does the government appear to be sending mixed signals?**

On one hand, the government wants to increase revenue through taxation. On the other, it acknowledges the importance of clean energy and off-grid solutions, which require tax incentives. This "double-edged sword" arises from balancing short-term fiscal goals with long-term sustainability objectives.

- **Can local actors influence this?**

Yes. Stakeholders must present strong evidence showing the reliability and economic impact of locally produced RE technologies. Effective lobbying is essential.

Path Forward for Stakeholders

- Local VAT Exemption: Advocate for tax exemptions on locally assembled RE components to promote local industry growth.
- Unions and Alliances: There is a growing need to unionize or form coalitions to advocate for policy reforms that favor local producers and workers.
- Role of Government: Stakeholders debated whether the government should act as a facilitator or simply as a consumer. The consensus was that it must enable local innovation and enterprise through supportive policies.
- Solar PV Importation: Experiences shared indicate that the Kenya Revenue Authority (KRA) can be cooperative, particularly when documentation is clear and aligned with valuation standards. However, inconsistencies in exemptions remain a barrier.

Policy and Institutional Coordination

- Engage the Ministry of Energy as a key player in policy alignment.
- Recognize that the energy sector significantly influences manufacturing and industrial development.
- A lobby group should directly engage with the Ministry to address key gaps and propose reforms that balance fiscal needs with developmental goals.

Captive Power and Off-Grid Solutions

The Captive Power Policy allows entities to generate their own power and offset consumption by feeding surplus into the grid a potential area for mutually beneficial public-private partnerships.

For off-grid solutions, stakeholders emphasized the need for:

- Enabling policies that protect the sector.
- Government commitment to long-term support structures.
- Integration with economic and social development frameworks.

3.4 Kenya's Position in the Global Production Network (GPN)

During the session led by Gillian Achieng, participants explored Kenya's current role and future prospects in the global production network (GPN) for renewable energy (RE). GPN was described by one participant as "a network of producers and sub-sectors in general," reflecting the interconnected roles that different countries and industries play in producing and delivering renewable energy technologies.

1. **Kenya's Current Role in the GPN**

Kenya primarily occupies a downstream position in the renewable energy value chain. This includes importing, assembling, and distributing RE technologies, particularly from China and Europe. Locally, the country excels in installation, maintenance, and training for small-scale systems such as Tier 1 and Tier 2 setups (typically under 10 kilowatts).

While there are instances of regional technical expertise, Kenya's upstream participation remains minimal, with limited involvement in high-tech manufacturing or component production.

Example: Jinko Solar

A key illustration provided was Jinko Solar, a manufacturer based outside Kenya, which handles the upstream manufacturing processes while Kenya plays a supporting role in downstream distribution and assembly.

2. **Understanding Power and Embeddedness**

- Power/Value: One participant defined power as "the quality or market price of a product," reflecting its influence in trade and policy decisions.
- Embeddedness: This was described as "integration"—the extent to which Kenya's renewable energy sector is integrated within broader policy, economic, and industrial frameworks.

Participants emphasized the need to embed RE within national industrial and training strategies, supported by policies that create a conducive environment for local uptake and innovation.

3. **Can Manufacturing Be Done Locally?**

Yes and No.

- Yes, at the customized level: Kenya has the capacity to train individuals in design, installation, and maintenance of RE systems.
- No, at the high-tech manufacturing level: Current policy frameworks, limited technical capacity, and lack of local certification systems hinder full-scale manufacturing of advanced components.

4. **Implications of Limited Localization**

Participants mapped the challenges into several thematic areas:

Table 1: Economic and Employment Impacts

- Tax Implications: The tax burden increases the cost of importing components, discouraging local production.
- Loss of Jobs: Without upstream involvement, job creation is limited to low-skilled roles, leading to underemployment.
- Need for Reskilling: Transitioning to local manufacturing requires significant investment in training and capacity building.

Table 2: Quality, Pricing, and Expertise

- Pricing: Heavy reliance on imports leads to volatile pricing.
- Quality Control: Kenya depends on external quality standards, lacking domestic benchmarks.
- Expertise Gaps: Limited access to technical training restricts the growth of local expertise in advanced RE technologies.

Table 3: Affordability and Skill Transfer

- High Transition Costs: Installation, repairs, and usage remain expensive.
- Reduced Job Opportunities: As most jobs are in manual labor, there's limited upward mobility.
- Minimal Skill Transfer: Manufacturing and design are outsourced, restricting the development of local knowledge and innovation.
- Waste Management Issues: Disposal of imported components is costly and unmanaged.

Table 4: Trade and Technology Transfer

- Supply Chain Vulnerability: Global issues like war and changing trade policies disrupt supply chains.
- No Technology Transfer: Sophisticated imports often come with intellectual property restrictions.
- Lack of Jobs and Research Capacity: Manufacturing occurs abroad, stalling domestic R&D and innovation.

Table 5: Structural Limitations

- Lack of Raw Materials: Limited access to necessary materials such as silicon or specialized glass.
- Research Gaps: Inadequate support for product design and prototyping.
- High Certification Costs: Global standards (e.g., lab tests costing up to $80,000) are unaffordable for most local firms.
- Inadequate Labs: Local testing infrastructure does not meet international standards, limiting product certification and export potential.

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5. **Opportunities for Localization**

Despite the challenges, participants identified a few components that can be localized which included: Steel and Concrete Bases, Aluminum (as a substitute for foil) and Glass Production (with local potential).

Localization of these components could be facilitated through:

- National and county-level assessments.
- Strategic negotiation of regional tariffs to encourage value addition within Kenya.
- Aligning local expertise with global standards to create equitable trade agreements.

6. **Case for Enhanced Manufacturing Capacity**

Participants pointed to South Africa as an example, where local firms produce nearly all components of solar panels. In Kenya, however, attempts at localization are often stalled by:

- Excessive bureaucracy
- High compliance costs
- Limited transfer of knowledge

To bridge this gap, it was recommended that:

- Contractors be required to train local workers as part of investment agreements.
- Skill development programs be embedded into RE projects.
- Content industries be promoted to focus on locally-producible components.
- Government investment in standardized laboratories to reduce certification bottlenecks.

7. **Wind Energy: A Curious Gap**

Participants expressed interest in Kenya's potential for local wind energy manufacturing. However, they noted that:

- Global certification standards remain expensive and lengthy.
- GROBA membership (Global Renewable Energy Business Association) requires full certification, a barrier for most local entities.
- Testing and conformity assessments are lacking in Kenya, making local wind technology development slow and uncompetitive.

Conclusion: Toward Strategic Integration

Kenya's downstream dominance in the RE value chain offers both limitations and opportunities. The path to localization requires:

- Stronger institutional coordination.
- Investments in R&D, testing labs, and technical education.
- Better negotiation in trade agreements.
- A policy shift that positions Kenya not just as a consumer, but as a co-producer in the global RE sector.

Localization efforts must be deliberate, inclusive, and well-aligned with global standards to ensure sustainable growth and job creation within Kenya's renewable energy landscape.

3.5 Findings from High-Level Surveys

A comparative analysis across three Kenyan regions Western, Coastal, and Central highlighted region-specific trends in renewable energy (RE) deployment. In Western Kenya, there has been some success with solar hybrid systems; however, the region struggles with inadequate skills transfer and a lack of local manufacturing capacity. In the Coastal Region, solar panel assembly activities are ongoing, but most of the high-tech components used are imported, limiting the potential for full local value addition. Central Kenya has made progress in clean cooking solutions, yet the market remains flooded with substandard imports, undermining quality and consumer trust.

Key challenges identified across these regions include limited inclusion of marginalized populations, growing environmental concerns such as electronic waste, and a general lack of capacity to support local innovation. While support mechanisms such as training centers, government grants, and community financing options exist, they are largely underutilized. A more deliberate and region-specific approach to deploying RE solutions is recommended to maximize impact.

Decent Work

The issue of fair labor practices in the RE sector remains a concern. The expected minimum wage is KES 700, but as a participant from Strathmore University pointed out, many employment contracts do not reflect this rate. The participant emphasized that stakeholders are aware of the appropriate rates for different tasks, but enforcement—not awareness—is the real gap. A large number of workers, including technicians and sales personnel, operate on a commission basis or within the broader gig economy, leading to employment instability.

There were also concerns about the limited career progression opportunities for workers after receiving technical training. As an ILO member noted, aligning national and regional policy language is critical, particularly in relation to Kenya's commitments under the Nationally Determined Contributions (NDCs). The current legal framework, including the Labour Laws and Employment Act of 2007, contains contradictions, especially concerning worker safety, social protections, and informal employment arrangements. The increasing acceptance of informal agreements by the government and courts places the burden of proof on authorities, highlighting the need for legal clarity. Given that the private sector is Kenya's largest employer, understanding the impact of informal work and addressing it in programming is essential. Moving forward, it is important to involve policymakers and major stakeholders, such as KenGen, to influence structural improvements. A new Act is also underway to address skill development and employment needs within the energy sector.

Gender Equality

Participants noted that there has been progress in including women in technical roles such as RE installations, with many cultural barriers now reduced. Women are increasingly being allowed and encouraged to take on roles traditionally dominated by men, provided they demonstrate the necessary competence. However, deep-rooted stereotypes still persist, with technical work often viewed as a "man's job." Cultural perceptions continue to hinder women's participation, often undermining their contributions and productivity. There is a need to ensure women are intentionally allocated tasks that reflect their capabilities and support their growth within the sector.

Sustainable Livelihoods

The link between sustainable livelihoods and access to clean energy remains weak, largely due to economic disparities across households. Participants noted that many families are unable to afford renewable energy products, which limits their adoption and consistent usage. Moreover, the availability of these products is often not aligned with local production capabilities, making them less viable in lower-income settings. Ensuring that clean energy solutions are both affordable and locally viable is crucial for strengthening the connection between renewable energy access and sustainable livelihoods.

Figure 4: Participant suggesting recommendations

3.6 Recommendations

Participants proposed a robust set of policy and implementation recommendations based on real-world challenges, group discussions, and reflections on Kenya's positioning in global and local renewable energy markets. These recommendations aim to create an inclusive, competitive, and sustainable RE sector in Kenya:

1. Establish RE Certification and Testing Infrastructure: Create publicly accessible national and regional laboratories to test and certify renewable energy products. This will reduce the reliance on expensive international certification processes, encourage local innovation, and ensure product quality and safety.
2. Enact Tax Incentives and Import Duty Reforms: Review and reform VAT and import duties on renewable energy components to lower barriers for local assemblers and manufacturers. The reintroduction of VAT on solar equipment was noted as a policy setback that should be re-examined.
3. Develop Local Content Legislation: Introduce and enforce local content requirements in renewable energy procurement and project development. This should include minimum quotas for use of locally manufactured components and inclusion of Kenyan firms and labor in project contracts.
4. Strengthen Technical Training and Skill Transfer: Enhance partnerships between government, industry, and training institutions (TVETs, universities, NITA) to support the development of skills aligned with market needs. Encourage companies to provide structured training, apprenticeships, and certification pathways for installers, engineers, and technicians.
5. Support Women- and Youth-Led Enterprises: Design inclusive financing mechanisms, mentorship programs, and business incubation hubs for women- and youth-owned SMMEs in the RE sector. Gender-responsive budgeting and dedicated capacity-building were seen as vital for equitable participation.
6. Promote Integration Between Energy and Livelihood Sectors: Align energy programs with key economic sectors like agriculture, manufacturing, health, and education to ensure energy access translates into real livelihood improvements. For instance, off-grid solar systems can support agro-processing and small-scale rural enterprises.
7. Harmonize Labor Laws and Employment Standards: Define fair labor practices specific to the RE sector, including minimum wages, safety conditions, and contract terms. Encourage formalization of work arrangements and protection for gig and informal laborers.
8. Facilitate Access to Finance and Markets for SMMEs: Establish dedicated green financing windows, credit guarantees, and tailored loan products for local clean energy entrepreneurs. Improve visibility of SMMEs in public procurement systems and donor-funded energy programs.
9. Encourage Public-Private Partnerships and R&D Investment: Foster collaboration between academia, industry, and government to support research and development of local RE technologies and promote technology transfer. Build incentives for local innovation and intellectual property registration.
10. Advance Public Awareness and Stakeholder Sensitization: Implement nationwide education campaigns to demystify RE technologies, explain economic and environmental benefits, and increase demand and citizen engagement in clean energy initiatives.
11. Improve Governance, Coordination, and Policy Coherence: Strengthen inter-agency coordination, decentralize energy planning to county levels, and embed JET principles in Kenya’s broader industrial and economic policies. Ensure that energy, labor, gender, and environmental agendas are integrated in a unified framework.

3.7 Proposed Policy Ask

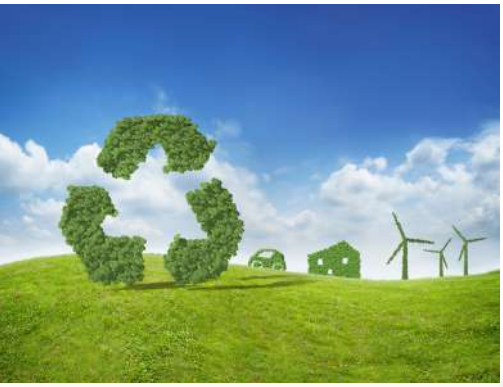
Participants proposed mainstreaming JET principles in national and county legislation, including the upcoming Energy Policy 2025–2034. They called for the alignment of energy, labor, industrial, and gender policies to create an enabling ecosystem for inclusive RE growth.

3.8 Conclusion

The Nairobi JET Policy Dialogue reaffirmed that Kenya has the policy tools but lacks the enforcement and integration required for a just energy transition. A holistic approach combining technical reform, social inclusion, and industrial policy is essential.

Moving forward, stakeholders must invest in building local capacity, amplifying underrepresented voices, and translating policy into practice. The path to a just energy future lies in participatory planning, intentional support for local actors, and coordinated national efforts.




Source: Canva

4 Western Kenya Policy Dialogue

Figure 5: Western Kenya Policy Dialogue Participants

4.1 Dialogue Structure

The Just Energy Transition Policy Dialogue took place on the 25th of June 2025 at Ciala Resort in Kisumu. The session was structured into two main segments, tailored to stimulate constructive conversations around inclusive and locally relevant energy transition priorities. The first segment began with an ice-breaker activity facilitated by Joan Andega, where participants were encouraged to move around the room, interact, and commit to memory, the names of as many individuals as possible. This networking exercise created an informal, collaborative atmosphere and set the stage for open dialogue throughout the day.

Dr. Bernard Simiyu delivered the opening remarks with formal introductions and set the tone for the discussions. He highlighted the need for inclusive participation, regional ownership and the collective shaping of a just, equitable energy future.

Gillian Faith led a discussion on Kenya's position in the Global Production Network (GPN), and Kenya's role in global energy transition frameworks. After this presentation, stakeholders had an opportunity to give their views on strategies for advancing a just transition in Kenya. In addition to this, stakeholders were prompted to come up with ways in which Kenya can move from downstream to upstream, in terms of value, power and embeddedness.

Norah Ouma presented and facilitated discussions on the Key Informant Interviews and the policy scan and provided a critical analysis of the country's policy architecture in relation to localisation, decent work, gender equity, sustainable livelihoods, and the capacity development of medium enterprises (MEs) within the renewable energy sector.

The second segment was a plenary session that encouraged stakeholders to share their insights, experiences, and critiques based on the five core themes: Localisation, SMMEs, Decent Work, Gender Equity, and Sustainable Livelihoods. The policy dialogue session concluded with closing remarks.

4.2 Participants

1. Government agencies (e.g., Ministry of Investment, Trade and Industry, County Government of Kisumu)
2. Civil society organizations and NGOs (e.g; Kenya Association of Manufacturers, Elite Pongamia Bioenergy Project)
3. Private sector and SMMEs (e.g; MKopa, Sun King)
4. Academic Institutions (e.g; Maseno University)
5. Community-based organizations (e.g; ISAK)
6. Development Partners (e.g; SNV)

4.3 Session Highlights and Key Insights

The policy dialogue session opened with an introductory presentation by Dr. Bernard Simiyu, who introduced the Just Energy Transition (JET) project, an International Development Research Centre (IDRC)-funded initiative. The presentation set the thematic and analytical tone for the dialogue by outlining the objectives, context, and expected outcomes of the ongoing JET research project.

Dr. Bernard emphasised the energy transition's intricate and contentious nature, noting that it has the potential to significantly transform the economy, but it also carries substantial risks.

- Disruption to existing local economies without safeguards for decent work.
- Undermining of localisation if most renewable energy technologies continue to be imported.
- Reproduction of already existing inequalities, particularly gender-based inequities.
- Increase in informal employment if the transition is not deliberately managed.
- Job losses in fossil fuel-dependent sectors.

Despite the risks, there are several strategic opportunities available in Kenya if the transition is properly harnessed:

1. Resource mobilisation for renewable energy investments.
2. Industrialisation through local manufacturing and innovation in renewable energy technologies.
3. Promotion of Decent Work, ensuring that jobs in the renewable energy sector are sustainable, safe, and fairly remunerated.
4. Expansion of Domestic Value Chains, especially through SMME inclusion in production and service delivery.
5. Addressing gender inequalities and the marginalization of historically disadvantaged groups, through intentional policy design and capacity building.
6. Reduction of workforce/labour insecurity, by institutionalising labour rights and protections.

4.4 Kenya's Role in the Global Production Network

This presentation focused on Kenya's position in the Global Production Networks (GPNs), by offering an in-depth technical analysis of how Kenya is currently integrated into global renewable energy supply chains.

4.4.1 Objective and Methodology

The GPN mapping aimed to identify the stages of value creation, capture, and distribution for solar and wind technologies in Kenya. The study examined:

- Activities-based value chain mapping (e.g., R&D, manufacturing, installation, operations & maintenance, and recycling).
- Input-manufacturing-end-of-life mapping, tracking the flow of materials, technological processes, and labour involvement across each phase.

This structured analysis provided a comprehensive picture of Kenya's industrial and economic engagement in the green energy transition.

4.4.2 Key Findings

The Global Production Network (GPN) mapping for solar panels reveals that China supplies over 98% of Kenya's solar subcomponents. Kenya remains almost entirely dependent on imports for upstream and core solar components such as polysilicon, ingots, wafers, and cells. Local companies, are limited to downstream activities like marketing, distribution, and installation, as well as manually assembling imported parts into modules. Consequently, Kenya's involvement in the solar panel value chain is confined to low-value functions, lacking manufacturing infrastructure and research and development capabilities for solar subcomponents. The government institutions engaged in this sector include the Energy and Petroleum Regulatory Authority (EPRA), Kenya Bureau of Standards (KEBS), and the Ministry of Energy, alongside civil society organizations such as the Kenya Renewable Energy Association (KEREA). Key industry players comprise companies like M-KOPA, Davis & Shirtliff, Kenya Solar Energy Ltd. (KENSEN), as well as investors such as Norfund.

When it comes to the wind sector, almost all high-value component manufacturing occurs outside Kenya, predominantly in countries such as China, Germany, Denmark, and the United States. These nations produce critical components including rotor blades, nacelles, gearboxes, and yaw systems. Kenyan firms such as Devki Steel Mills and Kenya Builders & Concrete Co. Ltd. contribute mainly by supplying tower foundations and structural elements, including concrete bases and steel parts. Local project developers like Lake Turkana Wind Power and Kipeto Energy PLC manage project implementation, while leading original equipment manufacturers (OEMs) serving Kenya's wind industry include Vestas, GE, Nordex, and CMEC. The ecosystem supporting this sector comprises policy actors such as the Ministry of Energy and EPRA, project developers, EPC companies, financiers like the African Development Bank (AfDB) and the World Bank, as well as training institutions including Jomo Kenyatta University of Agriculture and Technology (JKUAT), Technical and Vocational Education and Training (TVET) centers, and the Strathmore Energy Research Centre (SERC).

4.4.3 Strategies for Advancing a Just Transition in Kenya

This session provided a platform for stakeholders to reflect critically on Kenya's positioning in the global renewable energy landscape and propose strategic interventions to drive a more inclusive and locally grounded energy transition.

A recurring concern raised was the need for greater participation of key decision-makers within the energy sector in such dialogues. Participants emphasized the importance of having institutions such as Kenya Power and the Rural Electrification and Renewable Energy Corporation (REREC) present, to ensure that discussions are anchored in institutional mandates and result in actionable policy shifts.

A key insight from the session was the mismatch between perception and reality regarding Kenya's role in the Global Production Network (GPN) for renewable energy. While many participants believed Kenya ranked among the top 50 globally, research findings shared during the session revealed that only 0.02% of Kenya's renewable energy inputs are domestically produced. This underscores a stark reality: Kenya does not rank in the GPN for renewable energy production, which raises serious questions about the depth (and understanding) of our manufacturing and value addition in the sector.

Stakeholders also highlighted a significant discrepancy between energy connectivity, access, and production. The assumption that increased connectivity automatically translates to meaningful energy access was challenged. Participants pointed to a persistent gap in the energy sector, a structural disconnect between what is generated, who is connected, and who truly has access to reliable and affordable power. This disconnect continues to undermine the goals of equity and inclusivity within the energy transition agenda.

Another critical barrier identified was the absence of robust policy and regulatory frameworks to guide localisation and innovation in renewable energy production. Participants noted that Kenya currently lacks the technological infrastructure required to meaningfully localise renewable energy manufacturing and scale domestic production.

Despite these gaps, there were promising examples of local initiatives. Sigalagala National Polytechnic in Kakamega was cited, where students are currently being trained to manufacture solar components from scratch, an encouraging step toward building local capacity and expertise.

The session concluded with a provocative and forward-looking discussion on how to integrate indigenous science with global technological advancements. Participants posed fundamental questions about how to build the capacity of local learners and institutions so that Kenya can elevate its position in the GPN, similar to countries like China, which currently dominates the renewable energy supply chain within the GPN. This reflection emphasised the urgency of investing in education, technology transfer, and localized innovation to ensure that Kenya is not merely a consumer but also a producer.

4.4.4 How can Kenya move from Downstream to Upstream in the Global Production Network (GPN)

This session focused on Kenya's position in the Global Production Network (GPN) and examined the structural and systemic shifts required for the country to move from being a consumer and end-user of renewable energy technologies to a producer and upstream player in the value chain. Discussions revolved around three critical elements of GPN advancement: value creation, power, and embeddedness within global systems.

Stakeholders highlighted the lack of enabling policy and regulatory frameworks as a core impediment to industrial advancement in the renewable energy sector. While Kenya's Climate Change Act was acknowledged as a progressive step, participants noted that policy efforts remain fragmented and lack the depth required to support domestic manufacturing and technology adoption at scale.

One of the recommendations was the mapping of local resources and raw materials. Stakeholders emphasized the importance of understanding what Kenya can produce locally versus what must be imported, in order to reduce dependency on foreign inputs and foster self-reliance. However, this is hindered by a persistent lack of data and underinvestment in research, which continues to limit evidence-based planning.

The discussion acknowledged that Kenya currently does not have the capacity to manufacture renewable energy components from scratch. Participants were candid about the realistic limitations of localisation, noting that while full self-sufficiency is not currently feasible, the country can make progress by improving system efficiencies and strengthening the segments where it already has some capability.

Capacity building emerged as a central theme and participants emphasized that this is a long-term process that requires sustained investment, curriculum redesign, and institutional support. An example was raised regarding the Sigalagala National Polytechnic, which had acquired ten advanced machines for solar manufacturing, however, due to limited operational capacity and technical skills, the machines remain unused. This example served as a reminder that infrastructure without capacity is not sufficient.

Participants also called for greater political goodwill in supporting the energy transition. Concerns were raised about entrenched monopolies, particularly the role of Kenya Power (KPLC) in stifling the growth of decentralized solar energy solutions. Stakeholders expressed frustration over barriers placed against those attempting to thrive in the off-grid energy space. Finally, while technology was acknowledged to exist, participants noted that access to financing for RE technologies/innovations remains a major bottleneck. The inability to scale existing innovations due to lack of financial support continues to stifle the potential of the local RE industry.

In conclusion, the session underscored that while Kenya cannot yet fully occupy the upstream sections in the GPN, targeted strategies around policy reform, capacity building, political goodwill, and financial investment can lay the groundwork for gradual but meaningful advancement up the global energy value chain.

4.4.5 Examining Kenya's Renewable Energy Policy Landscape and Regional Dynamics

Norah Ouma's presentation brought together insights from the national policy scan and findings from a comparative survey conducted across Kenya's Central, Western, and Coastal regions. The policy scan, offers a critical assessment of the country's policy frameworks in relation to RE and the Just Transition, while the comparative analysis drew from qualitative research conducted in the three regions, and provided valuable perspectives on how this transition presents itself at a local level, with a particular focus on sustainable livelihoods, the localisation of RE value chains, the role of SMMEs, and the extent to which gender equity and the inclusion of marginalized groups are being realized on the ground.

Kenya stands out in Sub-Saharan Africa as a leader in renewable energy, with approximately 90% of its electricity sourced from clean energy such as geothermal, hydro, wind, and solar. The country has set an ambitious goal to achieve 100% renewable electricity generation by 2030 and reduce greenhouse gas emissions by 32%. However, persistent structural challenges such as poverty, gender inequality, limited local industrial capacity, informal employment, and barriers to the growth of medium enterprises, threaten to deepen existing inequalities if left unaddressed.

This research underscores Kenya's notable progress in scaling up renewable energy adoption while also highlighting critical gaps in governance, institutional capacity, and inclusion. The presentation reinforced the need for regionally responsive interventions, strengthened policy coherence, and intentional efforts to localize both the benefits and responsibilities of the energy transition.

4.5 Key Findings

Policy and Regulatory Environment: While Kenya has undertaken significant reforms, including the Energy Act of 2019 and supportive policies such as the Gender Policy in Energy, implementation remains fragmented. Localization mandates and inclusive participation frameworks are inconsistently enforced, and financing constraints continue to affect the sector's growth. Although overarching frameworks like Vision 2030, the Big Four Agenda, and the Kenya Industrial Transformation Programme prioritize industrialization and local content, heavy dependence on imported technologies remains a defining feature of the renewable energy value chain.

Regional Trends and Localization: Notable regional variations were observed. Western Kenya has shown high levels of localization in hybrid solar systems (85–90%), while Coastal Kenya is active in solar panel assembly and clean cooking technologies. Central Kenya showed interest in local assembly but faces major setbacks due to counterfeit imports and overreliance on foreign technology. Across all regions, stakeholders reported consistent barriers, including weak skills transfer, low manufacturing capacity, limited financing, and regulatory inefficiencies.

SMME Participation: Small, Medium, and Micro Enterprises (SMMEs) play vital roles in driving distribution, innovation, and grassroots entrepreneurship. However, systemic obstacles such as inadequate financing, and a lack of RE policy incentives, continue to constrain their growth and sustainability.

Decent Work and Employment Conditions: While renewable energy expansion has created new employment opportunities, decent work deficits persist. Challenges include domination of informal roles/terms of employment in the market, low pay, lack of social protection, gender-based harassment, and limited union representation. Many technical roles remain male-dominated, with women occupying just 15% of technical positions in the sector.

Gender Equity and Inclusion: Kenya's gender policies provide an important foundation for inclusion, and women-led initiatives are gaining traction. Nonetheless, cultural norms, workplace discrimination, underrepresentation in decision-making, and harassment in male-dominated spaces continue to limit women's full participation.

Marginalized Groups and Social Inclusion: Improved access to energy and community empowerment were noted as positive developments. However, limited involvement of marginalized groups in policymaking, coupled with socio-cultural barriers, environmental risks, and weak labor protections, signal the need for more targeted, inclusive approaches.

4.6 Stakeholder Reflections

a. SMMEs

Stakeholders emphasized the critical role of SMMEs in catalyzing Kenya's energy transition. However, a range of barriers were identified:

- **Access to Finance:** Participants urged county governments to lobby for the inclusion of SMMEs in programs like the FLLoCA (Financing Locally Led Climate Action) fund, which currently benefits counties but excludes grassroots enterprises.
- **Taxation Challenges:** Multiple stakeholders highlighted inconsistencies in the application of VAT exemptions for renewable energy components. For instance, batteries that constitute the bulk of solar system costs, have reverted to being highly taxed, reversing earlier gains from VAT exemptions. Stakeholders noted that vague guidelines on tax treatment under the Harmonized System (HS) codes contribute to uncertainty. Whether a component is taxed often depends on whether it is imported individually or as part of a complete system, creating confusion and disincentivizing investment.
- **Policy Clarity:** Experiences shared by early solar importers revealed major inconsistencies in responses from different government agencies regarding tax exemptions. The Kenya Revenue Authority (KRA), the Department of Renewable Energy, and customs officials at the port often shift responsibility from one another, undermining confidence in the policy environment.
- **Business Models:** The Energy-as-a-Service (EaaS) model was identified as a viable alternative, especially for consumers deterred by high upfront costs. This model allows users to pay only for electricity consumed, similar to traditional utility bills, thereby bypassing equipment purchase barriers.
- **Capacity Building:** The Kenya Renewable Energy Centre (KEREC) was commended for its role in enhancing local skills, particularly in solar and biogas technologies, though stakeholders suggested expanding its reach and resources to support more local entrepreneurs.

b. Decent Work

Discussions on labour practices highlighted significant gaps in the delivery of decent work within the renewable energy value chain:

- **Contractual Labour and Wage Gaps**: Most field workers operate under short-term contracts with little to no job security. Stakeholders noted that contractors, rather than the client companies, determine wages, which often results in low pay due to budgetary constraints.
- **Occupational Safety:** Concerns were raised about the lack of Personal Protective Equipment (PPE), ladders, and other essential tools on job sites. Additionally, compensation for workplace injuries is not consistently honoured, especially in informal work arrangements.
- **Labour Transparency:** A lack of visibility over what contractors pay their labourers makes it difficult to assess whether employment terms meet minimum standards of decent work.

C. Gender Equity

Stakeholders reflected on both progress and persistent challenges in promoting gender equity in the sector:

- Technical Inclusion: Some organisations have integrated women into technical roles, particularly in solar installation. However, women remain concentrated in roles such as sales and marketing (as well as the clean cooking sector of the RE industry), which align with traditional gender norms.
- Cultural Barriers: Cultural expectations continue to limit women's participation in more technical or leadership roles. Organisations such as SNV mentioned that they are intentionally bridging this gap in their projects, by involving women in areas traditionally dominated by men.
- Training Gaps: Stakeholders also noted the need to ensure equitable access to technical training for both men and women, pointing to positive trends in TVET institutions in the recent years, where more women are entering solar energy courses.

d. Sustainable Livelihoods

Participants broadened the discussion on sustainability beyond environmental concerns to encompass livelihoods, economic equity, and long-term wellbeing:

- Productive Use of Energy: Stakeholders observed that energy access policies have traditionally focused on connectivity rather than on enhancing productivity. There was a strong call to shift the narrative toward the productive use of energy and leverage access to power to stimulate micro-enterprises and rural economies.
- End-of-Life Solar Waste: Concerns were raised about the long-term environmental sustainability of solar technologies, especially regarding disposal and recycling of components such as panels and batteries, with some participants stating that they had waste disposal frameworks in place within their organisations.
- Affordability and Energy Poverty: The "poverty penalty" was highlighted as a key issue, whereby low-income households often pay more over time for access to solar energy due to exploitative subscription-based EaaS models. In extreme cases, companies repossess equipment when payments lapse, despite having recouped more than the system's value over time.
- Welfare and Cost of Production: Reducing energy costs was directly linked to improving household and community welfare, particularly in remote or underserved areas.
- Innovation and Awareness: Platforms such as the International Renewable Energy Conference (IREC) were cited as crucial for knowledge-sharing, policy dialogue, and driving innovation.

4.7 Key Outcomes and Recommendations

1. Fragmented Policy Implementation and Weak Institutional Coordination - Despite progressive national policies, institutional fragmentation and unclear mandates between national and county governments continue to obstruct localization and inclusivity goals.

Recommendations:

1. Establish a robust, inter-ministerial JET implementation taskforce to streamline coordination.
2. Operationalize a devolved JET policy framework that empowers counties to localize transition strategies.
3. Develop a unified monitoring and evaluation mechanism to track inclusivity, localization, and decent work outcomes.

2. Underdeveloped Industrial Ecosystem for Renewable Energy Manufacturing - Kenya's overreliance on imported RE technologies limits its potential for upstream integration in global value chains. There is little to no investment in R&D, industrial clusters, or component assembly.

Recommendations:

1. Create a national renewable energy industrialization strategy with localization targets.
2. Invest in industrial, and R&D centres and hubs in conjunction with TVET institutions.
3. Promote regional trade pacts to secure access to essential raw materials and intermediate goods.
4. Introduce fiscal incentives (e.g. tax credits) for local RE manufacturers and assemblers.
5. Align national energy policy with industrialization frameworks to build RE-focused manufacturing hubs within the country.

3. Limited Support for SMME Growth and Participation - SMMEs remain underrepresented in the RE space due to restrictive and inconsistent tax regulations, inconsistent customs enforcement, limited access to capital, and limited capacity.

Recommendations:

1. Expand FLLoCA eligibility to include renewable energy-oriented SMMEs.
2. Streamline VAT and HS Code classifications and publish clear guidelines to reduce tax ambiguity on RE imports.
3. Enable access to government funds and grants for energy-focused SMMEs through simplified compliance mechanisms.

4. Stagnant Skills Development and TVET Reform - Many TVET institutions lack modern RE curricula, and equipment remains unused due to staff shortages or skill gaps. Efforts to build technical capacity are fragmented and insufficient.

Recommendations:

1. Partner with industry leaders to co-develop RE inclusive curricula.
2. Provide funding to academic institutions and TVETs that align training with RE sector needs.
3. Scale up vocational training with an emphasis on PWDs, women and youth in RE sectors.
4. Mandate curriculum reform within TVETs to incorporate RE and green economy skills.
5. Require public RE projects to incorporate internship, capacity building or skills transfer components.

5. Precarious and Informal Labour Conditions in RE Deployment - Informality, wage disparity, absence of insurance or social protection, and lack of transparency plague many RE installation and maintenance jobs.

Recommendations:

1. Embed decent work benchmarks in RE projects.
2. Require RE initiatives to include compliance with decent work standards.
3. Create RE-specific labour unions that protects workers' rights.
4. Enforce minimum wage and safety standards for RE jobs via oversight by the Ministry of Energy.

6. Persistent Gender Inequities and Exclusion of Marginalized Groups - Structural and cultural barriers hinder women, PWDs, and rural youth from accessing technical, decision-making, or entrepreneurial roles within the RE space.

Recommendations:

1. Mandate gender audits and gender equity budgeting in all renewable energy projects.
2. Expand affirmative action programs within training, grants, and policy participation.
3. Institutionalize safe reporting mechanisms for workplace discrimination and harassment.
4. Introduce incentives for women-, youth-, and PWD-led RE firms.
5. Enforce anti-discrimination clauses and reporting mechanisms in RE labour employment policies.

7. Inadequate Focus on Productive Use and Livelihood Linkages - Electrification alone has not translated into enhanced livelihoods. Rural and urban poor populations lack the equipment, finance, or capacity to generate value from electricity access.

Recommendations:

1. Embed Productive Use of Energy (PUE) objectives in rural electrification projects.
2. Establish solar e-waste management regulations and recycling incentives.
3. Develop financing tools for smallholder-friendly energy assets.

4.8 Conclusion

The Western Kenya JET Dialogue reaffirmed that Kenya's transition to renewable energy must be inclusive and transformative. It illuminated the systemic gaps in policy implementation, technical capacity, and institutional coordination that hinder localization and equity. Yet, it also showcased the country's immense potential, from grassroots innovators to local polytechnics dealing in RE, and highlighted promising pathways forward.

What is needed now is strategic alignment: aligning county and national efforts, public and private sector investment, and grassroots energy ambitions with supportive, and inclusive policy frameworks. By centering local voices, enforcing social safeguards, and investing in local capacity, Kenya can carry out a truly just energy transition that is equitable, resilient, and locally grounded.

These insights must now move beyond dialogue and into action, shaping policies, programs, and partnerships that leave no one behind in the shift to a clean energy future.

5 Next Steps

Kenya's regional dialogues across Coastal, Central, and Western regions have revealed that while the country is a continental leader in renewable energy generation, the path to a truly Just Energy Transition (JET) requires deliberate institutional reforms, inclusive governance, and sustained investment in local capacities. The next phase of this process will translate insights from these dialogues into actionable strategies that strengthen coordination, empower communities, and influence national policy.

5.1 Consolidating Evidence and Knowledge Translation

To build a shared evidence base and enhance knowledge uptake across institutions:

- **Synthesis of Findings and Policy Briefing:** Integration of regional findings into a comprehensive report and policy brief.
- **Evidence Uptake:** Develop user-friendly knowledge products such as posters, infographics, and policy memos, for decision-makers, ensuring regional voices directly shape national policy discussions.

5.2 Influencing and Strengthening Institutional and Policy Frameworks

Kenya's policy environment offers a strong foundation for renewable-energy development, yet coordination gaps and capacity constraints remain. Strengthening institutional linkages and embedding JET principles into policy frameworks will be central to sustained transformation.

This can be achieved through:

- **Mainstreaming JET in Energy Policy:** Engage government actors to embed JET principles in energy policies and implementation frameworks.
- **Decentralise Governance:** Support county governments to coordinate local energy initiatives, licensing, and community engagement.
- **Enhance Policy Coherence:** Align energy, labour, gender, and industrialisation policies to create a unified framework that supports inclusive green industrialisation.

5.3 Building Local Industrial and Technical Capacity

- **Local Manufacturing Hubs:** Pilot county-level renewable energy manufacturing hubs through public-private partnerships.
- **TVET Integration:** Work with TVETs, and universities to co-develop updated curricula on up-to-date renewable energy design, maintenance, and safety, ensuring equity for women and youth.
- **Technology Transfer and R&D:** Facilitate strategic partnerships between local institutions (e.g., JKUAT, Strathmore Energy Research Centre) and international firms to embed research, testing, and certification capacity within Kenya.

5.4 Financing Inclusion and SMME Development

- **Financing Mechanism:** Collaborate with development partners and financial institutions to establish a dedicated finance mechanism for women, youth, and PWD-led SMMEs in renewable energy.
- **Fiscal Reforms:** Advocate for reinstatement and consistency in implementation of VAT exemptions and local-content incentives for renewable energy components to stimulate the renewable energy manufacturing sector.
- **Innovation Support:** Support innovation hubs that mentor small enterprises in renewable energy product development, marketing, and quality assurance.

5.5 Advancing Gender Equity and Social Inclusion

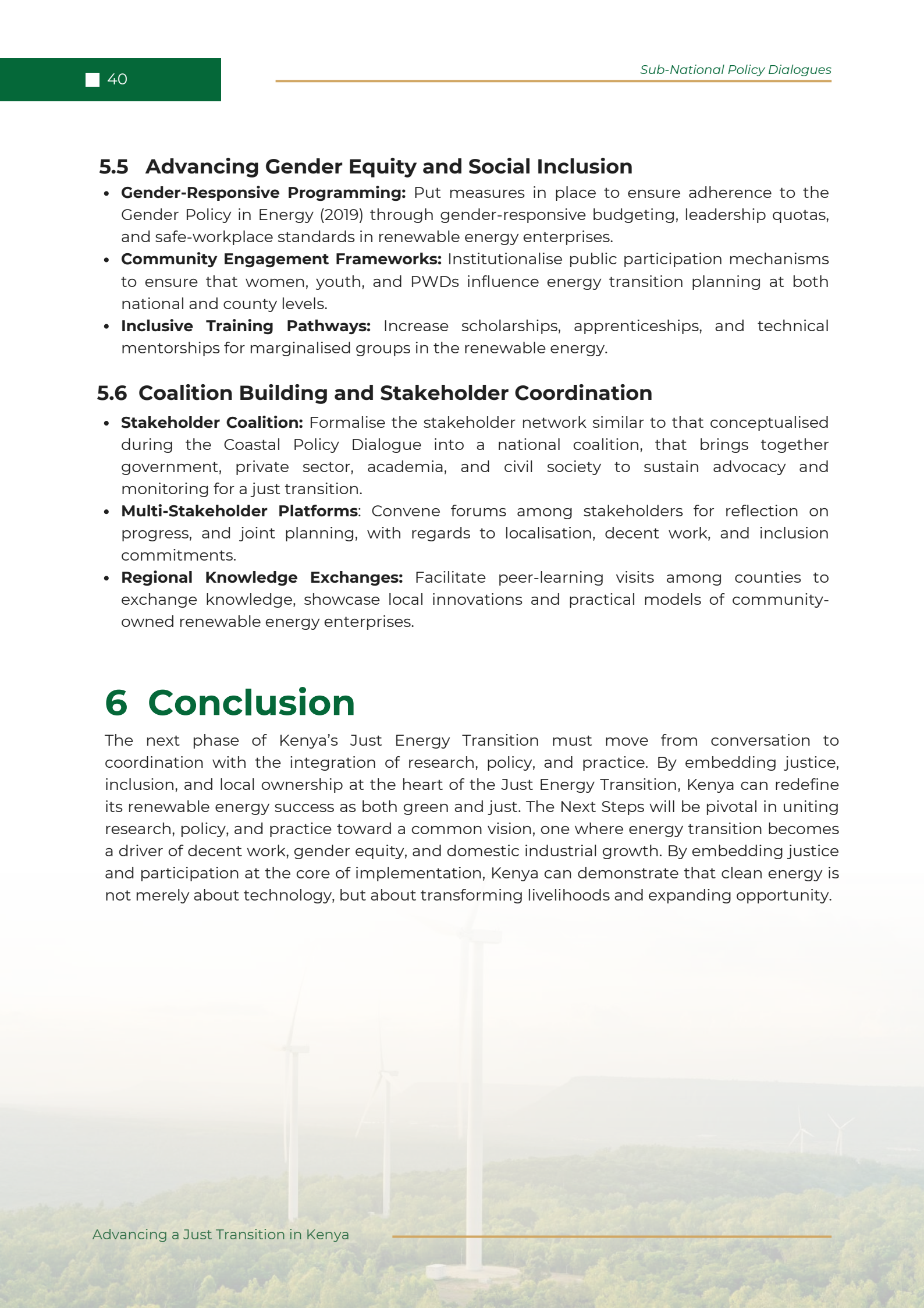
- **Gender-Responsive Programming:** Put measures in place to ensure adherence to the Gender Policy in Energy (2019) through gender-responsive budgeting, leadership quotas, and safe-workplace standards in renewable energy enterprises.
- **Community Engagement Frameworks:** Institutionalise public participation mechanisms to ensure that women, youth, and PWDs influence energy transition planning at both national and county levels.
- **Inclusive Training Pathways:** Increase scholarships, apprenticeships, and technical mentorships for marginalised groups in the renewable energy.

5.6 Coalition Building and Stakeholder Coordination

- **Stakeholder Coalition:** Formalise the stakeholder network similar to that conceptualised during the Coastal Policy Dialogue into a national coalition, that brings together government, private sector, academia, and civil society to sustain advocacy and monitoring for a just transition.
- **Multi-Stakeholder Platforms**: Convene forums among stakeholders for reflection on progress, and joint planning, with regards to localisation, decent work, and inclusion commitments.
- **Regional Knowledge Exchanges:** Facilitate peer-learning visits among counties to exchange knowledge, showcase local innovations and practical models of community-owned renewable energy enterprises.

6 Conclusion

The next phase of Kenya's Just Energy Transition must move from conversation to coordination with the integration of research, policy, and practice. By embedding justice, inclusion, and local ownership at the heart of the Just Energy Transition, Kenya can redefine its renewable energy success as both green and just. The Next Steps will be pivotal in uniting research, policy, and practice toward a common vision, one where energy transition becomes a driver of decent work, gender equity, and domestic industrial growth. By embedding justice and participation at the core of implementation, Kenya can demonstrate that clean energy is not merely about technology, but about transforming livelihoods and expanding opportunity.



7 Annex

Policy Dialogue Photos:

https://drive.google.com/drive/folders/1tKbktP04bbDO7raJvrgiL3HW6cNUINCr?usp=drive_link

https://drive.google.com/drive/folders/1BGghAAtpOxQHRXwVbQjzd0H16uptFzyq

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