NATIONAL POLICY RECOMMENDATIONS

ACCELERATING THE TRANSITION TO 100% RENEWABLES IN KENYAN COUNTIES

JULY 2024

ICLEI Local Governments for Sustainability

100% RENEWABLES CITIES & REGIONS ROADMAP

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ABOUT 100% RENEWABLES CITIES AND REGIONS ROADMAP PROJECT

The 100% Renewables Cities and Regions Roadmap project facilitates the energy transition by raising local awareness of renewable energy sources, showcasing how local and national governments can create coordinated, enabling frameworks and policies, exploring access to public and private sector finance, and building local renewable energy projects to address electricity, heating and cooling.

The 100% Renewables Cities and Regions Roadmap project is implemented by ICLEI – Local Governments for Sustainability and funded by the International Climate Initiative (IKI), which is implemented by the Federal Ministry for Economic Affairs and Climate Action (BMWK) in close cooperation with the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) and the Federal Foreign Office (AA).

ABOUT ICLEI – LOCAL GOVERNMENTS FOR SUSTAINABILITY

ICLEI – Local Governments for Sustainability is a global network working with more than 2,500 local and regional governments committed to sustainable urban development. Active in 125+ countries, ICLEI influences sustainability policy and drives local action for low-emission, nature-based, equitable, resilient and circular development. ICLEI's members and team of experts work together through peer exchange, partnerships and capacity building to create systemic change for urban sustainability.

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EXECUTIVE SUMMARY

Kenya, like many countries in the global south, urgently needs to sustainably transition from fossil fuels to renewable energy (RE), particularly due to its vulnerability to climate change. The electricity sector, as opposed to the other sectors, is leading the way, with more than 84% of the generation mix coming from RE sources, mainly geothermal. However, the country is still faced with the paradox of ensuring universal access to modern energy services, including electricity, while concurrently reducing greenhouse gas (GHG) emissions, especially in the transport and cooking sectors. In this regard, Kenya has ratified global commitments to energy transition into its legislative and policy agenda that will support the country's transition into a sustainable green economy.

International commitments such as the Paris Agreement, and hence the nationally determined contributions, are domesticated into Kenyan law, supporting the country's climate actions. Key policies include the 2018 Energy Policy and the 2019 Energy Act, with sector-specific regulations (save for the cooking sector) and strategies promoting both access and transition to net zero. The integrated national transport and draft e-mobility policies tackle sustainable transport challenges by advocating for coordinated planning frameworks involving county governments. The e-mobility policy proposes electric vehicle (EV) infrastructure development and decentralised energy solutions like solar photovoltaics (PV) for charging stations to strengthen county-level capacities and integrate them into national strategies. However, there are challenges that hinder policy implementation. These include limited regulatory frameworks for clean cooking, insufficient collaboration between counties and the national government, ineffective transport planning coordination and inadequate capacity and decentralisation at the county level.

The 100% Renewables Cities and Regions Roadmap project supports Kisumu, Nakuru and Mombasa Counties in transitioning to RE through technological innovation, policy assistance, capacity building and community engagement. The national policy recommendations are informed by expert evaluations and stakeholder consultations and focus on fostering collaboration between national and county governments to achieve local RE goals. Key recommendations include reviewing and aligning existing national energy policies, such as the National Energy Policy of 2018 and the Integrated National Transport Policy, to support growth in RE at the local level. Aligning with the policies, in addition to the other recommendations, shall promote emerging trends in clean cooking and RE technologies like electric mobility and green hydrogen. The recommendations also seek to enhance county capacities across all of these aspects and increase contributions to sustainable transport practices and 100% RE adoption at the local level.

Operationalising tools such as the Integrated National Energy Planning Framework (INEPF), Feed-in Tariff policy, Renewable Energy Auction Policy (REAP), net-metering regulations, and the Electricity Market, Bulk Supply and Open Access Regulations would integrate County Energy Plans (CEPs) into national strategies, improve project coordination, secure funding and create a conducive environment for RE uptake. The defined county roles as envisioned in the Energy Act may also be operationalised by encouraging county-specific legislative frameworks to fit the unique requirements and challenges per county. Furthermore, enhancing county governments' capacities, enacting clean cooking legislative frameworks and updating energy efficiency regulations will aim to standardise practices and expand local RE use. Updating transport policies to incorporate county roles in infrastructure planning and developing e-mobility policies will further support sustainable transport initiatives. The specific recommendations outlined in this report, if adopted, will significantly support Kenya's commitment at the local level and facilitate its transition pathway in the short-term (one year), medium-term (three years), and long-term (five years).

However, this report is not an exhaustive, static document. It should be periodically reviewed to monitor its alignment with the RE transition at the county level and to track progress on implementation.

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ABBREVIATIONS AND ACRONYMS

Abbreviation	Description
100% RE Project	100% Renewables Cities and Regions Roadmap
COP	Conference of the Parties
EE	Energy efficiency
EPRA	Energy and Petroleum Regulatory Authority
E-Mobility	Electric mobility
FiT	Feed-in Tariff
GoK	Government of Kenya
INEP	Integrated National Energy Plan
INEPF	Integrated National Energy Planning Framework
IPP	Independent power producer
KENGEN	Kenya Electricity Generating Company Plc
KOSAP	Kenya Off-Grid Solar Access Project
KNEECS	Kenya National Energy Efficiency and Conservation Strategy
LCPDP	Least Cost Power Development Plan
LED	Light emitting diode
LMCP	Last Mile Connectivity project
LPG	Liquified Petroleum Gas
MENR	Ministry of Environment and Natural Resources
MoEP	Ministry of Energy and Petroleum
MoRT	Ministry of Roads and Transport
NDC	National Determined Contribution
NGOs	Non-Governmental Organisations
NMT	Non-Motorised Transport
NPAG	National Project Advisory Group

ABBREVIATIONS AND ACRONYMS

Abbreviation	Description
NCTTA	Northern Corridor Transit and Transport Agreement
NTSA	National Transport and Safety Authority
PIT	Project Implementation Team
RE	Renewable energy
REAP	Renewable Energy Auction Policy
REREC	Rural Electrification and Renewable Energy Corporation
SDG	Sustainable Development Goals
SPV	Special Purpose Vehicle
SACCO	Savings and Credit Cooperative

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1. INTRODUCTION

Global collective action is required to transition from fossil fuel to RE-based systems in order to combat climate change, bolster energy security and achieve economic growth. Such a transformation requires a multifaceted approach, based on technological breakthroughs, policy developments, systemic economic shifts and societal inclusion. The discussion on energy transition is more urgent in the global south, particularly in Africa, which disproportionately bears the effects of climate change. The situation is exacerbated further by stark disparities in access to modern energy services, including electricity and clean cooking facilities, and a surging demand due to population growth and urbanisation.

The 100% Renewables Cities and Regions Roadmap project is a global initiative, implemented by ICLEI – Local Governments for Sustainability and funded by the German Federal Ministry for Economic Affairs and Climate Action (BMWK) through the International Climate Initiative (IKI). The project supports local governments with their energy transitions by raising awareness of RE sources, showcasing how governments can create coordinated, enabling, and multilevel frameworks and policies, exploring options for accessing public and private sector financing, and supporting the development of local RE projects across sectors such as heating and cooling, transport, lighting and cooking. Through the project, nine cities/regions drawn from Kenya, Argentina and Indonesia are being supported in their climate action. In Kenya, the project supports Kisumu, Nakuru and Mombasa Counties. Kisumu County is the deep dive/pilot county, while Nakuru and Mombasa are the network counties[1].

Energy is a shared function between national and county governments in Kenya. This project has identified several national-level policies, legislative and regulatory recommendations, and action points necessary for supporting a 100% RE transition at the county level. These recommendations, based on the electricity, clean cooking and transport sectors, are drawn from engagements with various stakeholders. The stakeholders were from national and local governments, local communities, non-governmental organisations, academia and the private sector. Implementation of the proposals shall facilitate the realisation of the 100% Renewables Roadmap for Kisumu County and the general energy transition paradigm for Kenyan counties.

This National Policy Recommendations report is structured into four sections.

- Section 1 provides an overview of the 100% Renewables Cities and Regions Roadmap project, the project scope and the process through which the national policy recommendations were developed.
- Section 2 highlights the current context of energy transition, a country brief, an overview of Kenya's policy and regulatory framework relevant to energy transition and current barriers to energy transition.
- Section 3 details national policy recommendations. The report concludes in Section 4, which includes possible future paths for the country.

1.1 METHODOLOGICAL PROCESS

The national policy recommendations were developed through participatory research that followed specific steps in Table 1.

Table 1. Process for national policy recommendation identification

Step	Description
Step 1 *Analysis of Kenya's energy policy and regulatory context*	A detailed analysis of international commitments, policies, regulations, strategies and plans on electricity, transport and clean cooking in Kenya was conducted. In the analysis, the enacted and draft instruments were reviewed in the context of energy transition and the role of county governments.

1 Extensive support of deep dive county through the project while networking cities benefiting from peer exchange and capacity building opportunities

Step 2 *Analysis of 100% Renewables Cities and Regions Roadmap project outputs*	In this phase, stakeholder engagement reports, Kisumu County RE roadmap, and project publications such as the National Energy Situational and Stakeholder Analysis were analysed. The review aimed to identify challenges and recommendations provided by stakeholders on how to enhance the contribution of local governments in the 100% RE transition.
Step 3 *Participatory stakeholder mapping at national and county level*	Key stakeholders' sectors for engagement on the outcome of the exercise were identified. The stakeholders were drawn from, among others, the Project Implementation Team (PIT), National Project Advisory Group (NPAG), Ministry of Energy and Petroleum (MoEP), Energy and Petroleum Regulatory Authority (EPRA), county representatives, non-governmental organisations, academia and private sector.
Step 4 *Identification of priority national policy recommendations and preparation of draft reports*	Based on the reviewed documents a draft report was prepared with policy recommendations.
Step 5 *Engagement with key stakeholders based on the draft report*	The draft report was shared with the identified stakeholders. Based on the input, the report was refined, and additional recommendations identified.
Step 6 *Final report*	The final report considering the document analysis and stakeholder input was prepared with a focus on providing key national policy recommendations

The national policy recommendations provided in this report are based on expert reviews of the existing policy instruments and dialogues and participatory engagements with energy stakeholders. As provided in Figure 1, the stakeholders were therefore engaged in two of the three main steps of arriving at the recommendations.

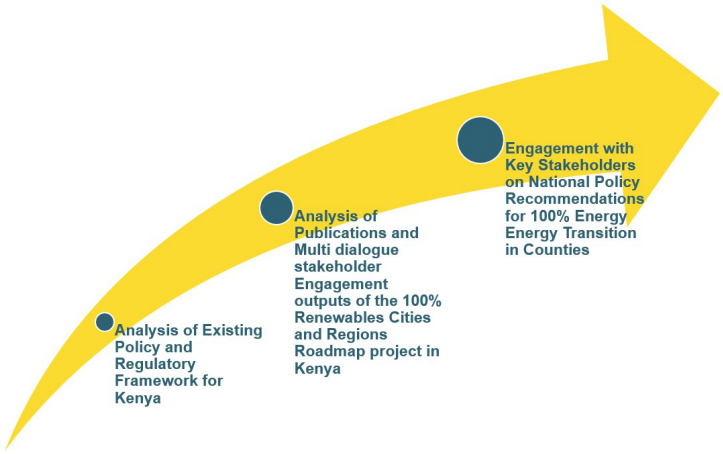

Figure 1: Involvement of stakeholders in the identification of policy recommendations

This deliberate integration of the findings from the policy instruments with stakeholder views was meant to ensure that the provided recommendations address practical challenges preventing counties from realising their 100% RE transition ambitions.

2. CITY/REGION BASELINE STATUS

2.1 STATUS OF THE ENERGY SYSTEM

Kenya is a country located in the east of Africa, bordered by Somalia to the east, Ethiopia to the north, Uganda to the west and Tanzania to the south, with its south-eastern border along the Indian Ocean. It covers an area of about 569,000 square kilometres, most (80%) of which are considered either arid or semi-arid (Ministry of Environment and Natural Resources [MENR], 2015). The country's population is expected to grow from 47.6 million in 2019 to 66.9 million in 2030 (KNBS, 2022). The main spoken languages are Swahili and English, alongside several local languages, with agriculture serving as the primary economic activity. While Kenya has the largest economy in East Africa, the country faces challenges of low infrastructure levels and other developmental issues (United States Agency for International Development [USAID], 2019).

Compared to the rest of the world, Kenya is a relatively low emitter of carbon, with the country's emissions accounting for 0.1% of historical global emissions and per capita emissions of 2.06 $MtCO_2eq$, compared to the global average of 4.92 MtCO2eq in 2020. Emissions are projected to reach 143 $MtCO_2eq$ in 2030, with a reduction of 23.2 $MtCO_2eq$ (from energy), 20.8 $MtCO_2eq$ (forestry), 9.7 $MtCO_2eq$ (agriculture) and 4.7 $MtCO_2eq$ (transport) (Government of Kenya [GoK], 2020). This is largely due to deforestation driven by wood harvesting for cooking and heating, as well as land clearing for agriculture (MENR, 2015). Energy consumption in Kenya is mainly dominated by biomass (65% of the national energy consumption), electricity (5%) and imported petroleum (27%), with biomass (wood fuel, charcoal and agricultural waste) providing the basic cooking and heating energy needs of the rural communities, urban poor and the informal sector. About 55% of the biomass consumed for primary energy consumption is derived from farmlands in the form of woody biomass, as well as crop residue and animal waste. The remaining 45% is derived from forests (AFREC, 2023).

In 2022/2023, 45.5% of the generation came from geothermal, 19.3% from hydro, 16.6% from wind and 3.5% from solar. Based on the Least Cost Power Development Plan (LCPDP) of 2022-2041[2]. , this trend is expected to continue up to 2043, save for the introduction of gas and nuclear plants over the period (MoEP, 2022b). With more than 75% of the population having access to electricity, the total installed capacity is 3,713.4 MW, with geothermal representing 26.9%; hydro, 24.8%; thermals, 20%; wind, 12.4%; solar, 10.5%; and 2.4% from waste heat recovery (EPRA, 2023a). The potential for hydro and geothermal energy is estimated at 6,000 MW and 10,000 MW, respectively (MoEP, 2019). Figure 2 presents the electricity generation mix by source for July 2022-June 2023.

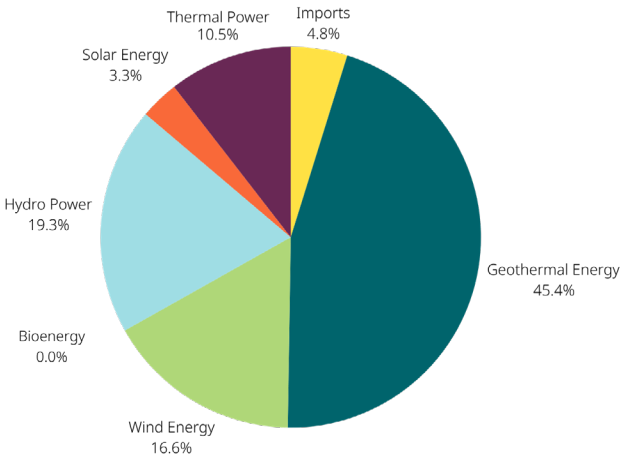

Figure 2: July 2022-June 2023 Electricity Generation Mix (Source: EPRA, 2024)

2 The LCPDP is a 20-year rolling plan, optimised for long term power generation and transmission expansion plans based on projected demand. It is updated every two years with the next update due for the period 2024-2043

Kenya has committed to various international commitments to advance its economy in a sustainable way. Particularly, the country has ratified the Sustainable Development Goals (SDG) and, in 2015, signed the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC). The SDG 7 focuses on universal access to affordable, reliable and clean energy by 2030. On the other hand, the Paris Agreement calls for countries to set Nationally Determined Contributions (NDC) targets, aimed at enhancing adaptation, mitigation and attracting finance. The country has set programs for each.

In 2020, Kenya revised its NDC targets, seeking to reduce emissions by 32% by the year 2030, based on the business-as-usual baseline of 143 $MtCO_2$ equivalent. Transportation, energy generation and forestry (biomass use) are some of the areas targeted for emission reduction efforts. With Kenya's emissions from the energy sector projected to rise from around 20 $MtCO_2e$ in 2021 to around 130 $MtCO_2e$ in 2050, the country has developed the Energy Transition and Investment Plan (ETIP) with specific interventions for all the sectors. This is part of the overall decarbonisation efforts. To meet SDG 7 targets, the country has embarked on electrification programs like the Kenya Off-grid Solar Access Project (KOSAP) and Last Mile Connectivity project (LMCP), which seek to increase the access rates in the country. The country uses various policies to meet these national and international commitments, as discussed in the sector-specific pathways. Based on the latest analysis, if the adopted climate policies are fully implemented, emissions could be reduced by up to 80% by 2050, as illustrated in Figure 3.

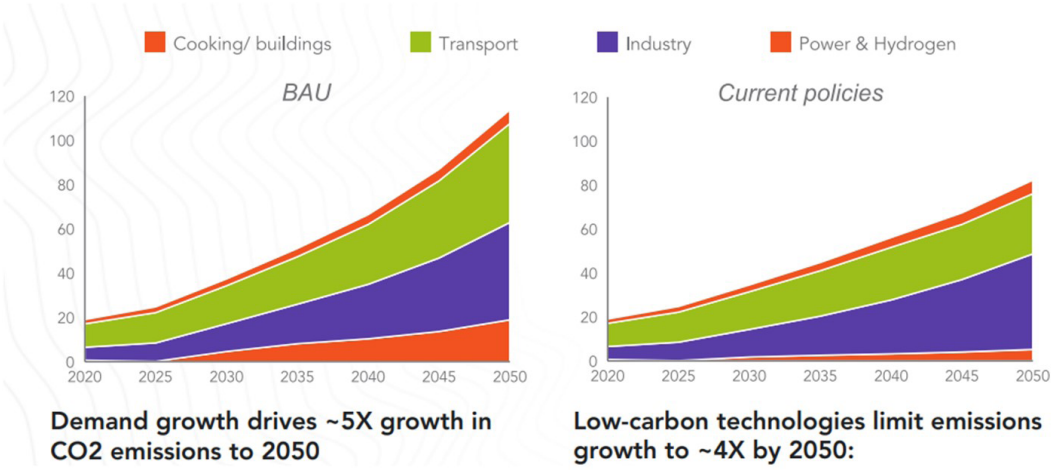

Figure 3: Potential emissions reduction in Kenya's energy sector based on net zero policies (Source: MoEP, 2024a)

The analysis is at the national level, with emissions reduction based on each county's contribution not provided.

2.2 REGULATORY FRAMEWORK – EXISTING PUBLIC POLICIES

The Constitution of 2010 is the supreme law binding all persons and state organs in Kenya. The law defines two levels of government – national and county, with distinct but complementary functions. Energy is one such function, and the Constitution anchors the governance system on human dignity, with emphasis on the need to protect the environment for the benefit of present and future generations. Additionally, it domesticates international treaties entered as part of Kenyan law, laying a strong foundation for climate-action-related initiatives and commitments detailed earlier in the report.

In implementing the precepts of the Constitution, several policies, laws, strategies and guidelines have been established to support the RE transition in the electricity, transport and clean cooking sectors, guided by energy sector plans. Energy sector planning is spearheaded by the Cabinet Secretary in charge of energy and is based on a bottom-up approach, where county governments develop CEPs that build up into an Integrated National Energy Plan Framework (INEPF). The developed draft INEPF provides for energy resource planning, energy access (both electricity and clean cooking) planning, and energy efficiency and conservation planning at both county and national level. Without the INEPF, planning for the energy sectors is done separately, mainly spearheaded by the national government entities with minimal contribution from counties ((MoEP, 2021). For instance, the LCPDP represents the electricity sector plan and provides projected electricity over a 20-year period, identifying generation projects and required infrastructure reinforcements to meet the demand. The national government and its agencies centralise project planning processes, resource mobilisation, decision-making and the actual

implementation process, thus undermining the overall legitimacy of the role of counties in energy (Tesfamichael and Cyoy, 2022)

The subsequent sub-sections discuss the policy instruments directly related to electricity, transport and clean cooking.

2.2.1 ELECTRICITY SECTOR

Kenya's electricity sector is the most "decarbonised" among the three sectors under consideration, with RE contributing to more than 84% of the generation mix, (based on the period between July 2022 and June 2023). In addition to the abundance of RE resources (mainly solar, wind and geothermal), the growth in RE projects has been supported by a Feed-in-Tariff (FiT) policy, first adopted in 2008, with revisions in 2010 and 2012. The FiT provided special tariffs for solar, wind, geothermal, hydro and biogas projects, supported by a simplified project development process. Further, the Geothermal Development Company was established as a Special Purpose Vehicle (SPV) to spearhead geothermal exploration, thereby derisking the development of the resource. The two initiatives led to increased uptake of solar, wind and geothermal plants by both Independent Power Producers (IPPs) and 70% government-owned Kenya Electricity Generation Company (KENGEN).

Despite past progress, procurement of new generation capacity stalled in 2020 following a moratorium issued by the Presidential Taskforce on Review of Power Purchase Agreements. The moratorium followed public complaints on the cost of electricity which was associated with high energy procurement costs. The draft FiT Policy of 2021, developed to replace the 2012 policy and adoption of the draft REAP, 2021, remains in limbo. The draft FiT focuses on the procurement of small hydro and biomass plants. Wind and solar were omitted from FiT and are procured through the REAP. The REAP is meant to introduce a competitive mechanism for price discovery, owing to the fast evolution of prices of wind and solar globally Adoption of REAP may provide an avenue for Public Private Partnership between the county government and the private sector in developing energy projects.

Apart from physical planning approvals issued by the county governments, the role of the counties in developing generation plants is not clear. Based on the engagements during the project, counties are not involved in coming up with the LCPDP. None of the projects in the LCPDP have been initiated by the local governments despite Kisumu, Nakuru and Mombasa counties, among others, expressing interest in developing waste-to-energy power plants to support their waste management efforts. It is not clear in the existing environment how such projects are integrated into the country's electricity plan. As part of the 100% Renewables Roadmap for Kisumu County, RE-based captive solar PV plants in public facilities such as schools, hospitals and offices have been prioritised. Successful implementation of such projects would require supportive policies that include power wheeling and net metering/billing[3] to allow the county government to bank or sell the excess energy on the national grid. In the current framework, there is no special consideration for county-developed projects even though the projects could be integral to other county functions such as waste management. It is assumed that they will be treated like those developed by the private sector (GoK, 2019; EPRA, 2023b).

While the average electricity access rate in Kenya is above most sub-Saharan countries', at about 70%, grid access remains low in the focus counties. Electricity access through the main grid in Kisumu was at 52.6% in 2019, and the balance from the overall access rate of 77% was supplied using off-grid systems. The significant growth in electricity access in Kenya – from 25% in 2013 to more than 70% currently – has been supported by several initiatives, including the Last Mile Project, the Kenya Electricity Modernisation Project, the FiT Policy, the mini-grid guidelines adopted in 2017, the Kenya National Electrification Strategy (2018), the Kenya Electricity Sector Investment Prospectus (2018-2022), and the KOSAP, which promotes off-grid systems in underserved counties. Additionally, regulations for solar PV systems and tax exemptions on RE generation equipment, including solar and wind, have played a role (though the current finance bill for 2023/2024 plans to withdraw these exemptions) (ICLEI, 2022; ICLEI, 2024). the current finance bill for 2023/2024 plans to withdraw these exemptions) (ICLEI, 2022; ICLEI, 2024).

The discussed frameworks, apart from being outdated, do not define the direct contribution of the counties in ensuring energy access. This is despite counties being mandated under the law to carry out reticulation of electricity and gas, implementation of county electrification projects and establishment of energy centres[4] are to

3 Kenya has developed a draft net metering framework that allows prosumers with plants of capacity up to 1 MW to bank the excess energy on the grid. The prosumers are allowed to draw 50% of the banked energy at times of deficit. On the other hand, the draft wheeling framework shall allow for open access to the national grid. The two frameworks are in draft form

4 The energy centres serve as facilities for development and promoting RE technologies in addition to disseminating information on the same to the public

be established by counties with support from the Rural Electrification and Renewable Energy Corporation (REREC). Even though the Policy was adopted in 2018, six years later, no direction on how the transfer of the existing energy centres from REREC to counties has been issued. This was corroborated by the comments from the participants at the 100%RE project's Serious Games session (May 2023), who stated that the energy centres had not been transferred. It is desirable that the function of reticulation in counties be fully owned by the county governments in the long term.

Furthermore, the enacted energy management regulations[5] (under revision) on energy efficiency in industrial, commercial and institutional facilities, and the appliance labelling[6] framework, do not define the roles of the counties despite the Energy Act of 2019 providing for concurrent functions between the national and county governments and need for close consultation in establishing the laws (GoK, 2019). The Energy Act of 2019 empowers counties to enforce efficient use of energy in their jurisdictions, in consultation with the EPRA. This targets commercial, institutional and industrial facilities, including building codes and the use of energy-efficient appliances.

Similarly, the Kenya National Energy Efficiency and Conservation Strategy (KNEECS) issued in 2020 has energy efficiency targets for transport, building, industry, agriculture, electricity and appliances (including cooking appliances), though the role of the county governments is not clearly defined. KNEECS targets a 3% improvement in efficiency per year, with the building and construction sector – which accounted for 36% of the final energy use in 2018 – expected to contribute significantly to the target. The production of building materials and energy use in buildings is associated with 39% of energy emissions in Kenya. This is considering that the sector is expected to grow with the increase in population and urbanisation and improvement in the well-being of people. Cities are expected to be most affected by these trends, thus indicating the need for efficiency throughout the building life cycle, including during material production and use, actual building design, and use of best practices once occupied. KNEECS identifies a lack of verifiable benchmarks, inadequate financing, and insufficient awareness as some of the areas hindering progress. While various bodies relevant to the sector are identified, the role of the counties is not defined in the strategy.

The discussed challenges affecting the development of green buildings and the promotion of energy efficiency in Kenya mirror the feedback provided by Kisumu County stakeholders. It is, therefore, necessary that guidance on local green buildings policy that could set the long-term vision and pathway for buildings under the control of county governments be issued. The Energy Act of 2019 empowers the counties to "with the approval of the Energy and Petroleum Regulatory Authority, amend the energy conservation building codes to suit the local climatic conditions and may, by rules made by it, specify and notify energy efficiency and conservation building codes with respect to use of energy in the buildings". However, the Authority has not established such codes. Additionally, the building codes for Kenya do not provide detailed requirements for the design and construction of green buildings.

Lastly, the efficiency regulations do not set obligations for public facilities – in both national and local governments – to comply with the energy management regulations. Hence, this is not prioritised when budgeting at the county level (ICLEI, 2024). It is also a challenge for counties to enforce the requirements on government-owned offices in their jurisdiction. The existing state of policy and regulatory environment makes it unclear on the intervention of the county governments in the energy sector, with most counties lacking the human and financial resources needed to support their energy departments. Counties are not considered actors by most national government agencies but rather implementers of policies and plans developed at the national level (ICLEI, 2022).

2.2.2 CLEAN COOKING SECTOR

The clean cooking sector in the country is guided by several policy instruments, including the Energy Policy of 2018, the Energy Act of 2019 and cross-cutting strategies such as KNEECS. There are no specific legislative or regulatory instruments dedicated to clean cooking in Kenya. However, the sector is guided by the Behaviour Change and Communication Strategy for Promoting Clean Cooking in Kenya, 2022, The Kenya National Cooking Transition Strategy (2024-2028) and the Kenya National Electric Cooking Strategy, which is still under development.

Among other energy policies, the Energy Policy of 2018 provides direction for clean cooking. In the National Energy Policy 2018, solid fuels are correctly identified as unsuitable for use as they lead to indoor air pollution and

5 The Energy (Energy Management) Regulations, 2012 require facilities with annual consumption of more than 180,000 kWh to implement an energy management system that includes designating a person in charge of efficiency in the facility, establishing an energy policy, conducting energy audits once every three years together with implementing the identified recommendations

6 Enforces minimum performance standards for motors, non-ducted air conditioners, household refrigerators and lighting appliances

are inefficient. Biomass is identified to have contributed to 69% of final energy demand and meeting 60% of the cooking energy needs in Kenya (MoEP, 2019). Alongside biomass, the policy identifies kerosene as unsuitable for use, especially due to its contribution to cases of respiratory tract infections.

As part of the solution to this problem, the policy recommends a transition to sources like liquid petroleum gas (LPG), electricity and natural gas. In the Policy, just like in the Energy Act of 2019, the counties are mandated to regulate and license gas reticulation, biomass value chain, biogas and charcoal value chains. In addition, counties are also mandated to reticulate gas and electricity, both of which were identified to support the clean cooking transition in the local governments. However, reliability and affordability are some of the problems that can affect electric cooking efforts in the country. Reliability problems result from ageing electricity infrastructure, illegal connections, power theft and load-demand mismatch. The counties have an opportunity to improve the situation through decentralising generation and the establishment of mini-grids. The cost of acquiring and even using the energy transition cooking technology can be managed if the county governments intervene with financing mechanisms. The transfer of the energy centres can also help in the creation of incubation hubs for developing clean cooking appliances and fuels. Even though the National Energy Policy 2018 calls for the need to transition to clean energy sources, it scarcely deals with the entire cooking value chain. The targets for electric cooking, biofuels and biogas in the clean cooking transition are not fully defined.

2.2.2.1 BEHAVIOUR CHANGE AND COMMUNICATION STRATEGY FOR PROMOTING CLEAN COOKING IN KENYA

This strategy was developed to improve the awareness of consumers on the benefits of clean cooking. The goal is to "create awareness and encourage behaviour change by using effective communication messages that positively influence the knowledge, attitudes, and social norms relating to the cooking behaviour of households in rural Kenya with regard to climate-friendly cooking solutions" (MoEP, 2022a). The strategy focused on three key benefits of clean cooking: saving money and time, improving health and positive environmental impacts. The strategy segregated the audience into two – primary and secondary. The primary audience was women living in rural areas and in informal urban settlements. The secondary audience consisted of men, private sector players and community networks (MoEP, 2022a).

The strategy used seven approaches, as follows:

1. Ideation, branding and rallying call
2. Execution of an awareness and behaviour change strategy
3. Focus on elements of behaviour change
4. Media advocacy to enhance public awareness and understanding of clean cooking
5. Partnerships and coalitions
6. Special events to promote clean cooking
7. Engaging the private sector/industry players in promoting clean cooking.

This strategy is supposed to run up to 2027, with 2022 as the baseline year. It does not, however, have the targets for the years. On financial management, the MoEP commits to providing funds for its own campaigns, but then asks partner agencies to source for their own funds for the strategy implementation. It is not possible for the MoEP to meet the targets of the strategy if it puts the responsibility of funding on other partners. County governments have been captured as some of the implementing partners of this strategy. However, the specific events should have formed part of the key performance indicators in the monitoring matrix.

2.2.2.2 KENYA NATIONAL COOKING TRANSITION STRATEGY

This strategy aims to achieve universal clean cooking solutions in Kenya by 2028. It was developed with the understanding that a significant portion of the population relies on traditional cooking fuels. The strategy, therefore, encourages fuel stacking[7], where other energy sources can be integrated into the existing ones. The strategy, however, recognises the benefits that can be achieved with a full transition. For example, the generation

7 Use of multiple stove-and-fuel cooking combinations within the same household

of revenue for the national electricity utility company in the case of e-cooking, the creation of jobs, reduction of GHG emissions and reduction of reliance on fossil fuels (MoEP, 2024).

In the situational analysis of the strategy, three constraints were identified: the supply and demand mismatch, the cost of the fuels and stoves and the unavailability of low-cost alternatives in clean cooking. The following five measures to address these constraints were identified:

1. Bridging the supply gap for clean cooking solutions
2. Bridging the affordability gap for the demand side
3. Promoting local manufacturing and fuel production for local use and export
4. Reframing and raising awareness of the role of clean cooking and finally
5. Instituting accountability, planning, and continuous tracking of progress

The first three interventions have been allocated to both policy, governance and financial players in the clean cooking market. The fourth and fifth have an extra implementer, dealing with planning, monitoring and evaluation. For supply-demand mismatch, the strategy calls for a ban on the use of traditional fuels in public institutions and then the creation of a supply chain for clean fuels like LPG and biofuels. On affordability, the strategy calls for the use of demand-side subsidies. It lays emphasis on the cross-subsidisation program as one of the solutions to this problem. The strategy also suggests other programs like pay-as-you-go schemes, carbon financing, the use of Savings and Credit Co-operatives (SACCOs), as well as banking, financing and micro-financing. For local manufacturing, the strategy calls for the setting up of special economic zones. Such zones can be afforded favourable manufacturing conditions.

It is worth noting that the strategy pays attention to the role the county governments play in clean cooking. It also calls for a broader integration framework for both the national and county governments to incorporate clean cooking in their energy plans. Such a framework, however, can only be realised by actualising the INEPF. The strategy singles out bioLPG as a desirable technology whose knowledge should be transferred to the county governments. The onus of this transfer is, however, bestowed on development partners, whereas the Energy Act 2019 proposes that agencies and committees should help with building the capacity of county governments. It, therefore, is evident that the strategy has not adequately addressed how to improve the capacity of county governments to adopt clean cooking solutions.

In terms of fiscal incentives, LPG and bioethanol vapour stoves are exempt from import declaration fees. LPG is also zero-rated, in tandem with the government's aim of lowering the cost of clean cooking.

2.2.3 ELECTRICITY SECTOR

This section discusses the policies and policy instruments related to transport and county governments, mainly the Integrated National Transport Policy and the draft E-mobility policy.

2.2.3.1 INTEGRATED NATIONAL TRANSPORT POLICY

The Integrated National Transport Policy is the main guiding tool for the planning, development and management of transport infrastructure in the country, and for promotion of an efficient transport system. This policy covers the entire transport sector of the country: air transport, maritime, road transport, pipeline transport and rail transport, with guidelines on environmental, social, legal, climate change, gender mainstreaming, safety, and security considerations. The policy identifies some critical issues and recommends policy interventions to solve them. These issues are articulated in 13 sections (Ministry of Roads and Transport [MoRT], 2024). This paper focuses on the issues related to county governments and climate change.

One of the issues raised in this policy is the lack of coordination in the planning and management of transport systems in the country. The document points out the disparate multiple agencies in the MoRT, each with different frameworks, making it difficult to have a unified policy intervention for transport problems. For example, the document cites a lack of coordination in transport planning and management between the county and national governments.

To solve the problem of lack of coordination, as identified under five themes of transport logistics, legal frameworks,

land use, urban road transport and road transport safety, the document suggested measures for each. However, amongst the five, only one touches on county governance. This measure calls for the establishment of a national coordination framework which will include representation from both the county and national government levels. This framework will be used for the planning and development of the sector. The framework has not been established. If established, this framework will ensure that transport management adopts a bottom-up planning methodology, thus incorporating the transport greening objectives for counties.

In addition to the lack of coordination, the policy points out the problems related to land use and transport planning, especially in urban areas. One such problem is the encroachment on road reserves, making it difficult to expand transportation systems. Kisumu, Mombasa and Nakuru are among the seven counties singled out in this policy for lacking strategic structure plans. The policy calls for an integrated approach to solving the problems related to land use and transport planning. For land availability problems, the document envisages integrating land use planning with transport planning. This will harmonise the development of the two sectors and avoid conflicting objectives. The lack of strategic structure plans will be solved using an integrated planning approach, which considers the county and national government transportation goals. It suggests the use of Transit Oriented Development (TOD) to promote mass rapid transit systems. The policy recommendations also touch on the promotion of the multimodal economic corridor concept. In this concept, transport planning goes beyond roads and rail, by factoring in land use plans. With such planning, the challenges related to encroachment on road reserves and road expansion can be solved. The policy recommendations could be beneficial for county governments.

The policy also documents issues related to climate change and urban, intra-city and inter-city transport services. A particular point of focus could be the cost implications of overreliance on road transport for freight. This leads to the wearing of the roads, reducing the efficiency of transportation. In all these thematic areas, issues of a lack of planning and policy, and overreliance on specific transport modes have been raised. As part of the solutions, the policy recommendations call for the national government to develop appropriate plans, policies and strategies to ensure that transport systems serve inter-city and intra-city movements in a sustainable manner. These plans, as per the policy, should consider all modes of transport, from rail, road and water. This can ease the problem of overreliance on roads for freight transport.

Even though the recommendations in this policy play a crucial role in improving sustainability in the transport system in the country, the policy objectives, strategic direction and principles scarcely dwell on integrating the national and county goals. This is particularly concerning considering the fact that out of the 162,600 km of roads, the national government only manages 45,532 km while the county governments manage the remaining 117,068 km (MoRT, 2024). Apart from the call for integration of planning between county and national government, which falls under institutional reforms, the policy is silent on other issues that can improve the uptake of sustainable transport in the county. For example, under the human capacity development and training intervention, there is no mention of county governments.

The policy direction mentions the promotion of e-mobility and green mobility, which is a good intervention measure. The policy does not, however, centre on the specific technologies for internal combustion engines. The policy direction also omits the electrification of the public transport system. This could have focused on electrification of the commuter trains, buses and light commuter trains. Solar PV systems can also support the electrification efforts in the transport sector, along with ethanol, to unlock the growth of sustainable transport in the county. Hydrogen[8], as recognised in the 100% Renewables Roadmap for Kisumu County, is also important in greening the transport sector. With the county governments having been given the power reticulation mandate, the policy could provide for electrification of public transport, and give the responsibilities of power supply to the county governments.

The policy document is silent on the development and use of hydrogen and bioethanol in the transport sector. The adoption of e-mobility calls for the development of charging infrastructure and power plants. Still, there is a need for collaboration between the county governments, the ministry responsible for roads and transport, and the ministry responsible for energy to improve the uptake of sustainable transportation modes.

2.2.3.2 DRAFT E-MOBILITY POLICY

The MoRT is in the process of developing the e-mobility policy. The draft version was launched in March 2024. The policy intends to guide the development of electric mobility in the transport modes of air, rail, road and maritime.

8 Kenya recently launched its Green Hydrogen Strategy, which recognises the importance of hydrogen in greening the transport sector

It aims to achieve this through the provision of a transition framework from the current internal combustion engine vehicles to electric-powered ones. Apart from developing the framework, other objectives include improving technical skills in the e-mobility sector and enhancing infrastructural capacity and local manufacturing of EVs (E-Mobility Task Force, 2024). The draft policy does not, however, focus on specific vehicles.

The policy also calls for a coordinated approach among government players and the private sector in electrification efforts to improve power supply to the growing market for EVs. Though the role of the county governments is not stated explicitly in the policy, the draft policy considers county governments in marginal ways. First, it identifies a lack of coordination between state agencies, county governments and other partners involved in the ecosystem of e-mobility. This lack of coordination was also noted in the Integrated National Transport Policy. The suggested policy intervention for this critical issue includes the development of the e-mobility steering committee, reporting to the Presidency to coordinate e-mobility initiatives in the country. While this is a good suggestion, it does not explicitly state membership to the steering committee. County governments can be left out if membership determination is at the discretion of the national government. Still, putting it under the Presidency negates the role of devolution in sustainable transport solutions.

The draft policy provides some roles for county government in terms of infrastructure support. The county government will install the charging ports together with the national government. This should include the role of county governments in setting up plants to manufacture parts of EVs – for example, batteries and motors. Still, this policy aspiration is not sufficient, as it does not discuss financial and human capacity enhancement for the county governments. While the national government could be sufficiently staffed and resourced for such projects, the same cannot be said of the county governments. There is a need for the policy to deliberately target improving the capacity of county governments. It should be noted that the stakeholder engagement sessions in Kisumu County raised issues of lack of capacity even in understanding the specific mandates of county governments as provided for in the various policy instruments.

Electricity cost and reliability can be a hindrance to the uptake of e-mobility. The draft policy rightly identifies this as one of the critical issues that need to be solved. The solutions include a review of the tariff for e-vehicle charging and improving reliability through the use of decentralised energy systems. This was also pointed out by the stakeholders in Kisumu, and they suggested the development of solar PV plants to augment the grid to charge the vehicles. This option of using distributed generation as part of the charging infrastructure is missing in the policy. It is worth noting that the policy is silent on the electrification of rail transport, even though the standard gauge railway was supposed to be electrified. Issues of adequacy and reliability of energy to power the trains should have been given prominence in this document.

The policy also focuses on transitioning public service vehicles from fossil fuel-powered engines to electric-powered types. It rightly mentions the development of a framework for this, through a phased approach. As the costs of purchasing EVs might be high, the policy also recognises the importance of financing and creating incentives and insurance for the EVs used in public transport. It does not, however, outline clearly how county governments can play roles in this, despite the fact that the constitution provides for counties to play roles in the transport sector.

2.2.3.3 TRANSPORT POLICY INSTRUMENTS

Kenya has various policy instruments that govern the transport sector. Most of the instruments were developed to establish transport agencies, as listed:

Table 2. State agencies and policies creating them

Policy instrument	State agency formed
Kenya Railways Corporation Act, Cap. 397	Kenya Railways Corporation
Northern Corridor Transit and Transport Agreement	Northern Corridor Transit and Transport Coordination Authority
State Corporations Act, Cap. 446, Gazette Notice-2013	LAPSSET Development Authority

Kenya Airports Authority Act, Cap. 395	Kenya Airports Authority
Civil Aviation Act, No. 21 of 2013	Kenya Civil Aviation Authority
The National Transport and Safety Authority Act, No. 33 of 2012	National Transport and Safety Authority
The Nairobi Metropolitan Area Transport Authority Order, 2016	The Nairobi Metropolitan Area Transport Authority
Kenya Ports Authority Act, Cap. 391	Kenya Ports Authority
Civil Aviation Act, No. 21 of 2013	East African School of Aviation

The Kenya Railways Corporation Act, Cap. 397 focuses on the logistics of managing the trains and the railway line. The latest version of this Act was in 2012. By then, the county governments were not in existence, and it does not, therefore, mention them. However, if there was any form of collaboration between the Corporation and the then county and municipal councils, this would have been easier to transit into the same working arrangement with the county governments. The Act also falls short of discussing issues of sustainability in the railroad transport sector. They do not mention the preferred technology for running the trains (GoK, 2012).

The Northern Corridor Transit and Transport Agreement (NCTTA) created a multinational authority, the Northern Corridor Transit and Transport Coordination Authority (NCTTCA), which oversees implementation of the Agreement in six countries. Among other objectives, the Agreement focuses on multimodal transport, the railway network, road network and inland waterways. Kisumu County could be a beneficiary of the inland waterways' modal, especially with the construction of the Kisumu Port that was signed off in 2016. In the Strategic Plan 2022-2026, the Authority envisages improving fuel efficiency for vehicular applications to reduce emissions. The plan also discusses improving Kisumu Port, to include the loading and offloading sites and the berths (NCTTA, 2012). Missing in this Agreement and the Strategic Plan too, is the involvement of the county governments in the programs. Further, even though they mention the sustainability and efficiency of fuels, the plans do not consider the use of RE in the multimodal transport approach.

County governments can find collaborative roles within the National Transport and Safety Authority (NTSA) Act, No. 33 of 2012. The Act provides for the licensing of all motor vehicles, with the exception of railroad cars. This provision caters for the registration of two and three-wheelers. The NTSA Act provides for the formation of the County Transport and Safety Committee (MoRT, 2012). However, in its composition, this committee only has one member from the county government. The Committee does not have an explicit mandate to consider sustainability as part of their work. More so, in granting licenses for public transport, the Act provides for consultation and respect for county laws. It does not consider concurrence from the county as part of the requirements. Consultation may not be enough. It should be noted that during the stakeholder engagement in Kisumu, participants called for an increase in the uptake of e-mobility in two-wheelers and three-wheelers. They also called for the provision of vehicle-free days and zones for non-motorised transport. For county government to effectively implement and enforce these, there is a need for a framework that requires NTSA to defer to county governments in some aspects of licensing. Such an arrangement works in the energy sector.

2.3 OBSTACLES/BARRIERS TO THE TRANSITION TO RENEWABLE ENERGIES

Kenya's energy sector is one of the most progressive in the sub-Saharan region in terms of RE development, with more than 84% of electricity supplied by RE sources. However, RE transition in the transport sector is marginal, at less than 1%, while more than 60% of the population relies on polluting fuels for cooking. More needs to be done at both national and county levels to achieve a local 100% RE transition in the sectors by 2050.

Anchored on a progressive Constitution, the National Energy Policy and Energy Act, and sector-specific policies, regulations and strategies, the country has a basic structure towards an RE transition. However, most of the frameworks required to support the transition have not been enacted. With two levels of government, county governments are meant to spearhead the transition at the local level. It is expected that counties should lead local level resource mapping, energy planning and maintenance of required energy data. This is in addition to creating an enabling environment for private sector investment and developing some of the projects to accelerate the transition. However, the project identified a few structural, system and institutional challenges. If addressed, this can assist in maintaining the national net zero target by 2050, and Kisumu County's Renewable Energy Roadmap has specific targets for 2030 and 2050. Table 3 provides a summary of the barriers to the transition to RE.

Table 3. Barriers to RE transition in view of counties' contribution

No.	Barrier	Category	Sector	Description
1.	Lack of a collaborative framework for implementing shared functions between counties and national governments	Institutional	Electricity, cooking and transport	For shared functions such as regulation of energy efficiency, electricity and gas reticulation, clean cooking, road infrastructure, and establishment of energy centres, policies and regulations developed by the national government do not fully outline the roles of counties. Out of this, most counties lack clarity on how to contribute.
2.	Lack of coordination for transport planning between national and county government.	Institutional and operational	Electricity, cooking and transport	The Integrated National Transport Policy does not provide for coordination with counties in the planning of non-motorised roads, walking lanes and bus rapid transport systems that suit their local needs. Planning across the sectors is disintegrated with clean cooking and transport sectors.
3.	Inadequate human, technical and financial capacity at county level	Institutional	Electricity, cooking and transport	Counties are newly established with national government having carried out functions such as regulation and policy development for a long time. Counties need to be capacitated in terms of staff and technical capacity building along with the devolution of resources needed for the functions.
4.	Failure to fully devolve county functions	Institutional	Electricity, cooking and transport	Functions such as reticulation of electricity and gas and energy centres are still controlled by national government
5.	Failure to enact enabling frameworks for the rapid expansion of renewables	Legal/ regulatory	Electricity, cooking and transport	Some of the frameworks supporting the RE transition such as net metering, wheeling, FiT Policy, and REAP are developed but not enacted.

6.	Inadequate strategic direction for e-mobility infrastructure.	Operational	Transport	There is no clear framework for the county governments to build charging infrastructure like battery swapping stations and decentralised solar PV systems.
7.	Lack of legislative and regulatory instruments, or sections therein, dedicated to clean cooking.	Legal/ regulatory	Cooking	There is no Act of Parliament or regulation, or sections in the existing ones, which focus on quality, standards, licensing or affordability of clean cooking systems
8.	Marginal roles provided for county governments in the existing national strategies and policies on clean cooking	Operational	Cooking	The national clean cooking transition strategy only mentions the roles of county governments in passing. It does not provide any framework where county governments are mandated with clean cooking targets.
9.	All the existing strategies in clean cooking are silent on the financing challenges related to a transition, especially the acquisition of the cooking appliances	Financial	Cooking	The strategies are mostly focused on shifting to new cooking sources, like LPG and electricity. They however do not consider the process of financing and acquiring the related appliances like induction cookers, gas cookers and bioethanol stoves.

This report provides specific recommendations for consideration at the national level to address these challenges. In line with the project objectives, implementing the recommendations will support county-level programmes that enhance an RE transition.

3. RECOMMENDATIONS

3.1 RECOMMENDED POLICIES FOR SELECTED SECTORS

This section highlights eleven National Policy Recommendations that need to be actioned at the national level, with a view of accelerating 100% RE in Kenyan counties. The recommendations mainly focus on the transport, clean cooking and electricity sectors. The sectors were identified by stakeholders as priorities for facilitating transition at the local level. In addition to the sectors, implementation of each of the recommendations has been defined in the timeframe of short, medium and long term where they represent one, three and five years, respectively. The short to medium-term recommendations are either those easy to achieve, especially where some work has already been carried out, or urgent to support counties in their 100% RE roadmaps.

3.1.1 ADDRESS RESIDUAL AMBIGUITIES RELATING TO COUNTY AND NATIONAL GOVERNMENT ROLES IN RELATION TO ENERGY

Target

Enhance county governments contribution to the uptake of RE, energy efficiency and overall development of the energy sector

Justification

The Energy Act, 2019 mandates the county government to develop county CEPs, regulate the production and distribution of biomass (including biogas), collect and maintain energy data, undertake implementation of energy efficiency standards and codes, undertake electricity and gas reticulation and guide siting of energy projects. Some of these functions are shared with the national government without clarity on the extent of mandate for each level of government. The shared functions include:

- Electricity and gas reticulation with both having potential to support fuel switching at the county level e.g., electricity mobility and electric cooking identified as part of the 100% RE roadmap for Kisumu County.
- Setting up and management of county energy centres where the counties are supposed to set up the energy centres with support of REREC. However, the status is that the centres are being run by REREC. These centres are expected to play an important role in developing, promoting and showcasing of RE and energy efficiency technologies at the county level.
- The mandate for collecting and maintaining energy data. Both the national and the county governments are mandated to collect energy data. It would be important to define the type of data to be collected at each level and how it is to be shared across to avoid duplication and optimise resources.

While there have been efforts to transfer the functions, most of the functions are still being undertaken by national government entities as the enabling collaborative framework has not been developed. Where the functions are shared, the demarcation of responsibility between the two levels of government is not clear. This may lead to duplication and in some cases, overregulation, and thus hinder the developed 100% Renewables Roadmap for Kisumu County.

Regulatory action
Develop a collaborative framework on energy between county and national governments detailing the role of each level of government, financing options and possible areas of synergies. For instance, in terms of data collection, the collaborative framework should define the datasets to be compiled at the local level. Counties could collect data on number of biogas units installed and the biowaste available for energy generation and off-grid systems, while national government agencies provide counties with data on on-grid energy sources. For energy efficiency, the responsibilities for enforcing building codes should be clearly defined. For example, the national government could develop the codes, while individual counties would be responsible for enforce them during the building approval process. The same approach should be taken for defining a solar water heating contribution fraction, which should be based on individual county needs. Develop a long-term outlook of the energy sector with a roadmap to capacitate counties to fully take up their mandate. While the law defines most of the functions, it is helpful to further break down these functions in the form of a road map. The roadmap will show when full operationalisation of each function would happen, associated impacts and the expected outlook of the energy sector in the short, medium and long term.
Synergy with other existing policies, strategies and regulatory frameworks
Energy Act of 2019, Energy Policy of 2018, Constitution of Kenya, County Government Act of 2012
Stakeholders involved
MoEP and sector agencies, EPRA, County Governments, Non-Governmental Organisations, Academia and Electricity Sector Association and practitioners
Similar examples
In South Africa, the City of Cape Town oversees electricity distribution and retail within its jurisdiction with the national utility (Eskom) charged with mainly generation and transmission. Eskom sells electricity to the local governments. Further clarity exists in the law promoting solar water heating where the national government oversees standards and technical regulation while the local governments determine the solar fraction to be met within their jurisdictions. This is similar to in India.
Time horizon
Short term

3.1.2 UPDATE AND MONITOR THE NATIONAL ENERGY POLICY OF 2018 TO INCORPORATE EMERGING TRENDS AND TECHNOLOGIES INTO A MORE DYNAMIC ENERGY POLICY

Target
Promote the uptake of emerging trends and technologies on RE, such as electric mobility and green hydrogen, thus cutting down on GHG emission from the transport sector

Justification
Hydrogen and electricity are expected to play a significant role in decarbonisation of the hard-to-abate sector. The Energy Policy of 2018 and Integrated Transport Policy are strategic documents outlining the energy and transport sector's aspirations and direction. In the policy, the status and role of green hydrogen in the electricity, transport and cooking sectors is not defined i.e., policies and strategies to promote its uptake are not included. Currently, it is not possible to establish the status of implementation of the National Energy Policy of 2018 due to lack of continuous monitoring. While the policy documents identify continuous monitoring and evaluation as important in order to keep up with the development in the sectors, this has not been operationalised in practice. The county energy maintenance personnel lack adequate skills to implement emerging trends and technologies which negatively affects the monitoring.
Regulatory action
Review the energy policy to align it with emerging trends and technologies including identifying the status and role of green hydrogen in the electricity, transport and cooking sectors. This includes identifying policies and strategies to promote its uptake.
Synergy with other existing policies, strategies and regulatory frameworks
Energy Act of 2019, Energy Policy of 2018, The Green Hydrogen Strategy and Roadmap for Kenya, the Green Hydrogen Guidelines and the Clean Cooking Strategy for Kenya
Stakeholders involved
MoEP and sector agencies, EPRA, County Governments, Non-Governmental Organisations, Academia and Electricity Sector Association and practitioners
Time horizon
Short term
Time horizon
Short term

3.1.3 OPERATIONALISE THE INEPF TO SUPPORT COUNTIES IN INTEGRATING THEIR TRANSITION TO RE PROGRAMMES INTO THE COUNTRY'S ENERGY PLANS

Target
Support the transition to RE to enable counties to develop RE projects either individually or/and in partnership with private sector
Justification
The Energy Act of 2019 provides for the development of the INEP to guide energy development programmes in Kenya. INEP is a consolidation of CEPs thus facilitating the integration of county government energy planning into the national energy planning. The INEPF provides important guidelines on the sectors to be included and the format of the CEPs whose endorsement at INEP level shall ensure integrated development of the energy sector and provide a mechanism for local governments to raise funds for approved projects. Further, it will allow county initiated RE projects to be incorporated into the sector plans as opposed to the current situation where they are developed in isolation.

Regulatory action
Enact the INEPF and regulations through formal national and county government activities. These include, but are not limited to, measures taken to ensure understanding, acceptance and support for the CEPs, to improve the competency and knowledge about risk-sensitive energy usage planning among planners and other professionals and to raise the awareness and support of all stakeholders.
Synergy with other existing policies, strategies and regulatory frameworks
Energy Act of 2019, Grid Code and Electricity Market Rules for the Eastern Africa Power Pool (EAPP)
Stakeholders involved
MoEP, EPRA, County Governments, Attorney General's office, Non-Governmental Organisations, Academia and Electricity Sector Association and practitioners
Similar examples
Energy planning in countries such as USA, South Africa and India with strong local governments consider the local planning in the overall national planning
Time horizon
Short term

3.1.4 OPERATIONALISE THE COUNTY GOVERNMENT ROLES AS ENVISAGED IN THE ENERGY ACT OF 2019 AND ENHANCE COUNTY GOVERNMENTS' HUMAN CAPACITY AND FINANCIAL RESOURCES

Target
Fully operationalise the provisions of the law in relation to the mandate of counties in the energy sector thus supporting a bottom-up development model for the sector
Justification
The Kenya Constitution, the Energy Policy and the Energy Act have assigned several energy functions to the county governments, some of which are shared with the national government. The functions include planning, development and regulation of biomass and biogas, and electricity and gas reticulation, among others. However, most counties lack the required policy framework and human, technical and financial resources to execute the mandate. The energy departments are normally under-resourced and in some cases are overshadowed by other departments under the same ministry. Existing human resource capacity building programmes are isolated and only promote specific energy technologies. This situation limits the uptake of RE sources at the local level.

Regulatory action
Define a long-term roadmap for transfer of county functions supported by a capacity development programme similar to the EU-funded Sustainable Energy Technical Assistance (SETA)[9]. The roadmap should include the resources required and the long-term outlook of the energy sector once the counties fully take up their mandate. In the short term, the counties can be supported to develop county specific legislations that align with the national laws and policies. These will help establish the lacking structures like the institutional capacities, county energy funds and county energy planning aspects in ways that satisfy the unique challenges the counties face.
Synergy with other existing policies, strategies and regulatory frameworks
Energy Act of 2019, Energy Policy of 2018, Constitution of Kenya, County Government Act of 2012
Stakeholders involved
MoEP, EPRA, County Governments, Attorney General's office, Non-Governmental Organisations, Academia and Electricity Sector Association and practitioners
Time horizon
Medium term

3.1.5 REVIEW THE ENERGY POLICY 2018, ENERGY ACT OF 2019 AND THE CLEAN COOKING TRANSITION STRATEGY 2024 TO PROVIDE SECTIONS FOR ROLES OF THE COUNTY GOVERNMENTS AND THEIR CLEAN COOKING PROGRAM CAPACITY RESOURCING FOR COUNTY GOVERNMENTS

Target
To give clean cooking programs at national and county levels legislative and regulatory backing for effective implementation and enforcement
Justification
The majority of the rural population in Kenya depend on biomass for cooking. There presently exists no robust structures on either sustainable resource or modern technology supply at the county governments. The Energy Act 2019 and the Energy Policy 2018 do not have dedicated targets and provisions for clean cooking. They both stop at discussing the need for fuel substitution, replacing kerosene and firewood with LPG and electricity. Clean cooking goes beyond substituting one fuel with another. It encompasses acquisition of new appliances, financing, production of the clean fuels and awareness creation. There should be legal backing to improve the quality and affordability of this.

9 It is a European Union programme that sought to support counties in enhancing institutional capacities especially in policy development and energy planning. The project ended in 2023

Regulatory action
Review the Energy Act, 2019 and National Energy Policy 2018 to have sections on clean cooking that touch on standards, licensing, manufacturing and importation of both the fuels and the appliances. The fuels contemplated in this Act should go beyond LPG and natural gas and include bioethanol and biogas. The Act should provide for the roles of the county governments in the clean cooking space in Kenya. Engage and map all stakeholders at the national and county governments to influence policy on clean cooking. Clean cooking strategies should also be explored to save the country's majority from indoor air pollution and promote a cleaner Kenya. Additionally, it should provide for the national government to build the capacity of county governments in clean cooking
Synergy with other existing policies, strategies and regulatory frameworks
County Governments Act, 2012, Customs and Excise Act, 2010, The East Africa Community Customs Management Act 2004.
Stakeholders involved
County Governments, Non-Governmental Organisations, Academia, Kenya Revenue Authority, Kentrade Networks Agency, Kenya Bureau of Standards, EPRA, Kenya Industrial Research Development Institute
Time horizon
Medium term

3.1.6 REVIEW THE ENERGY MANAGEMENT AND APPLIANCE LABELLING REGULATIONS TO INCLUDE SYNERGIES BETWEEN COUNTY AND NATIONAL GOVERNMENT IN PROMOTING ENERGY EFFICIENCY PRACTICES IN THE COUNTRY

Target
Enhance the contribution of counties in promoting energy efficiency practices across all sectors as an enabler to local 100% RE
Justification
Energy efficiency has been identified as a major enabler to net zero and the integration of RE. In the Kenyan context, 3% efficiency improvement has been set per annum. Under the Energy Act, 2019, county governments have a responsibility of enforcing efficient use of energy in their jurisdictions, in consultation with EPRA. Yet, the Energy (Energy Management) Regulations, 2012, the Energy (Appliances' Energy Performance and Labelling) Regulations, 2016 and the revised drafts do not provide an interface with the counties in terms of responsibilities. Neither do they explicitly require public facilities (both county and national government owned) to comply with the provisions of the law. Working with the counties to define the extent of their mandate in relation to energy efficiency shall reduce future potential conflicts between the two levels of government and potential overregulation of the sector.
Regulatory action
Review the Energy (Energy Management) Regulations, 2012 and the Energy (Appliances' Energy Performance and Labelling) Regulations, 2016 and the proposed revisions to delineate the mandate of EPRA from that of the county governments in relation to energy efficiency. The revision should also include explicit provisions for public facilities complying with the requirements.

Synergy with other existing policies, strategies and regulatory frameworks
Energy Act of 2019, Energy Policy of 2018, Constitution of Kenya, County Government Act of 2012
Stakeholders involved
MoEP, EPRA, County Governments, Non-Governmental Organisations, Academia and Electricity Sector Associations, Kenya Association of Manufacturers, Kenya Private Sector Alliances and industry practitioners
Similar examples
The Federal Energy Management Program in USA supports public facilities to comply with the energy efficiency requirements including for new and renovation of existing buildings. Individual states do have other programmes beyond what has been established at the federal level. An example is the Energy Efficiency of Building Standards, enacted by Kansas State.
Time horizon
Medium term

3.1.7 FAST-TRACK ENACTMENT OF THE ENABLING FRAMEWORKS FOR RE AND DEFINE THE LONG-TERM OUTLOOK OF THE ELECTRICITY SECTOR

Target
Enhance county governments contribution to RE including through use of captive generation[10]
Justification
Enactment of the identified frameworks shall operationalise Sections 162 and 163 of the Energy Act, 2019 and allow contribution of RE developed by county governments in the country's energy mix. This will be achieved through allowing banking of excess electricity on the national grid, facilitating power wheeling and developing tariff competitive projects.

10 On site power plants installed by electricity consumers mainly connected to the national grid

Regulatory action
The transition to 100% RE in the counties is anchored on, among others, powering of county facilities such as schools, hospitals and offices with RE sources. The identified frameworks promote uptake of RE distributed generation systems by providing a mechanism for banking (storing) excess energy on the grid for later use or selling to customers away from the generation site using the grid. The mechanism minimises the offtake risk[11] by enabling access beyond onsite customers and thus promoting a model where counties can lease the rooftops of their facilities or idle land to private developers for RE projects, thus enhancing RE uptake. This is in addition to encouraging competition and hence an enabling environment for competitive tariffs. The policies and regulations that need to be enacted include: • Electricity Market, Bulk Supply and Open Access • Net Metering Regulations • FiT Policy • REAP Enacting these legislations will enable counties to develop RE projects either independently or in partnership with the private sector. These projects can supply energy to county facilities, sell it to the grid, or provide it directly to end consumers, both on-site and off-site. In addition, the enaction of the legislations will be an incentive to the private developers for RE projects.
Synergy with other existing policies, strategies and regulatory frameworks
Energy Act of 2019, Grid Code and Electricity Market Rules for the Eastern Africa Power Pool (EAPP)
Stakeholders involved
MoEP, EPRA, County Governments, Non-Governmental Organisations, Academia and Electricity Sector Association and practitioners
Similar examples
State of California in the USA, Ghana, Tanzania, South Africa, and India
Time horizon
Short term

3.1.8 REVIEW THE INTEGRATED NATIONAL TRANSPORT POLICY TO ARTICULATE THE COORDINATION FRAMEWORK FOR TRANSPORT PLANNING BETWEEN THE NATIONAL AND THE COUNTY GOVERNMENTS

Target
Enhance the role of county governments towards transport infrastructure planning, development and maintenance, for better integration of efficient and green transport solutions

11 The offtakers in this case refer to private consumers

Justification

The current transport planning is done by the national government, yet the county government manages 72% of the roads. The current policy calls for the development of a coordination framework but does not clearly state the composition and participation levels of the county government. Too often, transport planning has concentrated on road infrastructure and traffic while ignoring the access to energy used for powering the vehicles.

Regulatory action

Review the Integrated National Transport Policy 2024 and introduce variables in the objective that call for the establishment of the national coordination framework. These variables should include the level of participation of county governments in the frameworks. This level should consider transport infrastructure development and maintenance budget allocation, capacity building, licensing, the provision of electricity to power the EVs and county public participation. There is an urgent need to recalibrate transport investments at both government levels based on the population in the transport planning analysis, and resilience performance measurement of transport.

Synergy with other existing policies, strategies and regulatory frameworks

The National Transport and Safety Authority Act, No. 33 of 2012, Kenya Roads Act, 2012, County Governments Act, 2012

Stakeholders involved

MoRT, County Governments, Non-Governmental Organisations, Academia, Matatu Owners Association, Treasury

Similar examples

In the USA, decisions relating to transportation and infrastructure occur at all levels of the government. The city and county leaders help in determining the local land use and transportation priorities and do so through setting plans, codes and standards. The state and federal government deal with connectivity between local jurisdictions and allocation of funds.

Time horizon

Medium term

3.1.9 REVIEW THE E-MOBILITY POLICY TO PROVIDE FOR ROLES AND SUPPORT OF COUNTY GOVERNMENT IN THE DEVELOPMENT OF LOCAL CAPACITIES FOR E-VEHICLE ASSEMBLY AND THE CHARGING INFRASTRUCTURE, AND ENHANCING ELECTRIFICATION OF BOTH PUBLIC AND PRIVATE TRANSPORT SYSTEMS

Target

Enhance the role of county governments in setting up manufacturing hubs for e-vehicle parts, the development of e-mobility charging infrastructure and improving electrification of public vehicles

Justification
The draft E-mobility policy bestows the role of establishing e-mobility charging infrastructure to the county governments. However, it does not spell out the capacity resourcing for this role. Amidst the many pressing needs for the existing county government resources, this role may not be met without additional resources. Further, the policy does not state how the county governments can play roles in providing incentives for electrification of public transport sectors. There is need for human, technical and financial support towards establishment of manufacturing hubs, charging and battery swap stations and solar PV power plants for charging e-vehicle batteries.
Regulatory action
The draft E-mobility policy should incorporate a provision for human, technical and financial capacity support for county governments. This should include the establishment of a ring-fenced county transport fund (similar to the energy efficiency fund) to help build the required capacity and provide incentives for the acquisition of EVs. The fund could be managed through a pay-as-you-go financing system for the players in the public transport sector. Additionally, the fund could be used to give subsidies to purchase electric two and three-wheelers in the county. It should also provide structured capacity building programs by the national government to enhance the capacity of county government staff. These include building integrated e-charging facilities with RE and storage in each county.
Synergy with other existing policies, strategies and regulatory frameworks
Kenya Roads Act, 2012, Integrated National Transport Policy, Energy Act, 2019, County Governments Act, 2012
Stakeholders involved
MoRT, County Governments, Non-Governmental Organisations, Academia, Institute of Engineers of Kenya, Treasury, EPRA
Time horizon
Medium term

3.1.10 REVIEW THE KNEECS TO ALLOCATE AND EXPAND TRANSPORT SECTOR ENERGY EFFICIENCY TARGETS FOR COUNTY GOVERNMENTS

Target
Enhance the role of county governments in contributing to energy efficiency in the country
Justification
The KNEECS aims to improve vehicular efficiency through various pathways, including improving fuel economy and increasing the share of e-vehicles. County governments are listed as some of the participants in this target. The target, however, does not allocate specific key performance indicators to the counties. It also limits the transition to e-vehicles only, leaving out use of bioethanol, a viable transportation solution. Similarly, the overall annual target for efficiency in Kenya is 3%, however this has not been cascaded down to the counties and sectors. The contribution of each of the counties to the national target is not known.

Regulatory action
The KNEECS should allocate specific targets to county governments, focusing on county transportation vehicles. As part of the intervention, the strategy should consider bioethanol and biodiesel as alternative pathways the counties can use for clean transportation programs.
Synergy with other existing policies, strategies and regulatory frameworks
Energy Act, 2019, Integrated National Transport Policy, Energy Act, 2019, County Governments Act, 2012
Stakeholders involved
MoRT, County Governments, Non-Governmental Organisations, Academia, Institute of Engineers of Kenya, Treasury, EPRA, Ministry of Agriculture
Similar examples
Allocation of transport efficiency targets per administrative region works well in Canada, under "Efficiency Canada". The ten provinces are ranked on performance in various sectors. Transport is one of the sectors in which ranking occurs. Such a scorecard is also in the USA, under the American Council for an Energy-Efficient Economy.
Time horizon
Medium term

3.1.11 ENACT A COMPREHENSIVE GREEN BUILDING POLICY AS A FOUNDATION FOR THE COUNTY GOVERNMENT'S ACTIONS IN ENHANCING EFFICIENCY

Target
Reduce the life cycle emissions from the building sector
Justification
The built environment represents a significant portion of energy use at the country (above 30% in Kenya) and county levels, primarily due to the energy demands of construction materials, as well as residential and commercial heating, cooling, and lighting needs. As urbanisation accelerates, the demand for energy in buildings increases, making energy efficiency and sustainability critical concerns. The existing framework does not define clear requirements and ambition for energy improvement in this sector. The Energy Act requires county governments with the permission of the energy regulator to amend the national energy conservation building codes to suit the local climatic conditions. Such codes have not been developed. The existing building code under the National Construction Authority has a high-level definition of requirements on the same. It is therefore paramount for the national government to develop a comprehensive policy on green buildings considering: • Building materials • Sustainable building design • Energy and levels of emission • Water management The two (Energy Act and National building code) should include responsibilities of the two levels of government.

Regulatory action
Develop a comprehensive Green Building Policy that defines requirements for: • Building materials • Sustainable building design • Energy and levels of emission • Water management Enhance sustainability mechanisms for funding public and private green buildings
Synergy with other existing policies, strategies and regulatory frameworks
Energy Act of 2019, Energy Policy of 2018, Constitution of Kenya, County Government Act of 2012, the Building Code for Kenya, KNEECS, Energy Management Regulations
Stakeholders involved
MoEP, sector agencies, National Construction Authority, MoRT, Engineers Board of Kenya, Architectural Association of Kenya, EPRA, County Governments, Non-Governmental Organisations, Academia and Electricity Sector Association and practitioners
Similar examples
The federal governments of the United States of America and Canada have national building codes with specific requirements on energy efficiency for both public and private buildings. Individual states and provinces establish more stringent requirements, sometimes accompanied by specific support mechanisms to achieve the set goals for both existing and new buildings. Examples include the Green Building Policy developed for the Resort Municipality of Whistler, Canada.
Time horizon
Medium term

4. FUTURE PATHS

Kenya is making advances on the energy transition front, with more than 84% of its electricity coming from RE sources. The recently developed ETIP provides a clear roadmap for the potential emission abatement in the energy sector. However, with more than 65% of the population relying on the traditional use of biomass for cooking and 99% of the country's transport fleet on petroleum, more efforts are required to achieve 100% RE transition at the county level. There is a relatively high awareness of the need and potential for decarbonisation at the national level that should be supported by structural, institutional and systematic reforms.

Currently, Kenya has two levels of government with complementary mandates in the energy sector. Drawing from the fact that national government entities were carrying out most functions before devolution, the role of counties in energy policy development, regulation and project implementation is not yet fully established. Despite the law defining the roles, most counties still lack adequate capacity to undertake the assigned functions. In some cases, the roles have not been fully defined. It is, therefore, important that the two levels of government develop a coordination framework with a gradual but planned transfer of functions. This must further be supported by the required technical, human and financial resources. Counties will require intensive capacity building in the short to medium term. These elements remain crucial for a just and inclusive transition that considers the local needs.

The transition in the electricity sector has been slowed down, with important enabling frameworks still in their draft formats for several years. These include the net metering framework, the wheeling framework, and auction and FiT policies. Further, the frameworks do not define the working relationship between the national and county governments in support of the local RE transition. The initiatives undertaken by the national government in the sector are disjointed from the county programmes.

To realise the full potential of the electricity sector, collective efforts from the national and county governments are required to enact the pending frameworks, capacitate the counties and ensure continuous collaboration. This collaboration is with the aim of promoting the 3% efficiency target per annum. In the transport sector, there is a need to work together in providing the infrastructure necessary for non-motorised transport and integrating planning for charging points to support fuel shifts. Clean cooking remains a challenge across the country. Strategies to enhance financing and promote awareness of citizenry on the climate, environmental and economic costs of using polluting fuels are required at all levels. For maximum benefits, the role of counties in clean cooking should be defined in the strategy document.

With the renewed commitment by county governments – this includes the three focus counties – to the climate agenda, the momentum based on a bottom-up approach to energy transition needs to be sustained. This report provides specific short to medium-term recommendations that, if followed through, will go a long way in supporting the commitment at the local level and, hence, the transition pathway for Kenya.

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