

WORKING PAPER

Unlocking public finance for clean energy investment through integrated planning and budgeting in Makueni County, Kenya

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Suggested Citation: Ireri, B., A. Nemera, A. Ngowa, B. Mutua, and N. Nthambi. 2025. "Unlocking public finance for clean energy investment through integrated planning and budgeting in Makueni County, Kenya." Working Paper. Addis Ababa: WRI Africa. Available online at doi.org/10.46830/wriwp.23.00113.

Highlights

- In Kenya, county governments are important in planning and implementing programs that promote economic development and energy access. However, siloed budgeting and planning processes result in underinvestment in green energy, undermining energy and development goals.
- In Makueni County, for instance, despite top leadership advocating for a "one-government approach," many sectors continue to invest in buildings and equipment, assuming the energy department will facilitate investments in energy requirements.
- The county's current development plan allocates less than one-tenth of the investment needed to meet energy access targets, with only a tiny portion directed toward decentralized renewable energy, which could cost-effectively generate the power required to achieve desired development goals.
- This paper explores how a lack of coordination leads to resource inefficiencies, missed opportunities, and underinvestment in energy access, hindering productivity and essential services. It argues that integrating energy considerations into sector priorities and plans can facilitate universal access to clean energy, enhance productivity, improve agriculture, and provide better health care at lower costs.
- Additionally, it outlines strategies to overcome barriers to integrated planning among county departments, national and subnational governments, and donors.

Executive summary

Kenya's electricity access has improved dramatically over the last decade, increasing from just 19.2 percent of the population in 2012 to 76.5 percent in 2021 (IEA et al. 2023). Connection to schools grew from 56 percent in 2014 to 94 percent in 2016 (Koima 2024), and for hospitals, it reached 89 percent in 2023 (GoK 2022b), up from 72 percent in 2010 (Adair-Rohani et al. 2013). The Government of Kenya (GoK) is determined to achieve universal access by 2030. About US\$60 billion is required in annual investment through 2040 to deliver energy for all in Kenya (IEA 2019).

The establishment of county governments in 2013 and the adoption of the Energy Act of 2019 provided new opportunities to close gaps in access to energy. Subnational administrations are required to develop their County Integrated Development Plans (CIDPs), outlining development priorities for the next five years. They must also develop County Energy Plans (CEPs) describing the local energy access situation and the role that they will play as well as that of the national government and development partners in delivering clean energy to local populations.

Stakeholders, including government and development partners, recognize energy as an enabler for development. Integrating it into CIDP priorities would help accelerate the realization of development goals while unlocking the finances needed for investment in energy access. For example, in agriculture, energy is needed to pump water for irrigation, reducing overreliance on rainfall and increasing agricultural productivity and food security. Similarly, energy is needed to power cold chain facilities for horticultural produce, which is central to reducing food loss. In turn, this will significantly increase income levels for smallholder farmers. In the health sector, affordable and reliable energy will be required to power medical equipment and refrigerators needed to store vaccines sensitive to temperature changes. Achieving these will require integrated planning and budgeting (IPB). While this concept is not new, its success has been limited, particularly in unlocking finance for energy access investments (Hivos 2021).

This paper focuses on one subnational administration in Kenya: Makueni. In 2023, the Government of Makueni County (GMC) developed its CIDP 2023–2027, which requires KSh 92.3 billion to implement the six priority sectors (GMC 2023a):

- Water development and management
- Agricultural commercialization and industrialization
- Environment and natural resource management
- Urban planning and development
- Social sector development
- Roads, energy, and infrastructure

In 2024, the county administration launched its CEP, whose implementation requires a further KSh 74.9 billion over 10 years (2023–32) (GMC 2024a). The subnational government allocated only KSh 7.25 billion to the energy sector under the CIDP, representing a paltry 9.7 percent of the funding needed to implement the energy plan.

This paper explores how integrating clean energy into a county's development plans can unlock public finance for investment in energy access priorities. It identifies opportunities for integrating energy in Makueni's planning and budgeting process and barriers to IPB. Beyond financial allocation as an integration aspect, the paper also considers technical integration of solar technologies in various sectors. By investing in clean energy, the county would save significant resources needed regularly to operate and maintain diesel-powered generators.

The paper identifies five key barriers to IPB in Makueni County:

- Capacity gaps (technical) across departments
- Limited access to critical data and evidence to inform opportunities for integration
- Poor coordination between county government departments and national government ministries
- Competition for resources between sectors and departments
- Poor recognition of energy as an enabler for development

To address these barriers, the paper makes the following key recommendations:

- Strengthen the capacity of county-level planners from all departments and relevant county assembly committees.
- Bolster the use of data and evidence to promote IPB.
- Align the plans and budgets of the county administration, national government, and development partners.
- Integrate energy priorities (as captured under the CEP) into the CIDP.
- Develop, adopt, and use a guiding framework and tools to steer the mainstreaming of IPB.

The paper is structured as follows: “Background and information” discusses how access to electricity in Kenya, the Makueni County Energy Plan 2023–2032 (GMC 2024a), and key sector priorities from the CIDP 2023–2027 (GMC 2023a) would facilitate unlocking public finance for energy access through IPB. “Methodology and approach” presents the methodology and approach used in this study. “Research findings” looks at opportunities for unlocking finance for energy access investment from priority sectors in Makueni's CIDP.

“Approach to planning and budgeting in Kenya” delves into approaches for planning and budgeting in Kenya. “Barriers to IPB” presents the barriers to the realization of effective approaches to IPB in Makueni County and also outlines ways the GMC can integrate energy across other sectors and departmental priorities. Finally, “Recommendations” offers guidance to facilitate the effective integration of clean energy in county plans and budgets.

Background and introduction

Over the last decade, access to electricity in Kenya has expanded dramatically. In 2012, only 19.2 percent of the population had access. By 2021, this figure had jumped to 76.5 percent (IEA et al. 2023). In just two years, between 2014 and 2016, connection to schools rose from 56 percent to 94 percent (Koima 2024). For hospitals, access jumped from 72 percent in 2010 to 89 percent in 2023 (Adair-Rohani et al. 2013; GoK 2023a). This growth is attributed to new policies and regulatory interventions that crowded in private sector investment in the energy sector (UNECA and RESforAfrica Foundation 2022). Kenya’s government also took steps that attracted development financing for the country’s electricity sector (Ireru 2018; Power Africa 2023).

The Energy Act of 2019 provided new impetus for addressing energy access poverty. It mandates that Kenya’s 47 subnational governments develop their County Energy Plans (CEPs), taking stock of local energy access and outlining what the national government and development partners should do to help deliver energy to all (GoK 2022a). In 2024, the Government of Makueni County (GMC) developed its CEP, prioritizing electrifying household and social facilities, powering rural economic opportunities, and providing clean cooking to local populations and institutions. A total of KSh 74.9 billion will be needed to facilitate its implementation. On the other hand, the County Governments Act of 2012 requires the 47 subnational administrations to develop five-year County Integrated Development Plans (CIDPs) that outline their development priorities (GoK 2012a). Makueni’s CIDP 2023–2027 prioritizes six sectors (GMC 2023a):

- Water development and management
- Agricultural commercialization and industrialization
- Environment and natural resource management
- Urban planning and development
- Social sector development
- Road and energy infrastructure

Implementing this CIDP will require KSh 92.3 billion. This amount will be raised from the GMC, national government, development partners, and private sector actors. Mobilizing

these funds from national and county government budgets will need to go beyond the traditional approach of allocating specific budget lines for “stand-alone” energy projects to identify opportunities for integrating clean energy into other sector priorities. This would offer multiple benefits, such as enhancing reliable power supply for households, businesses, and social institutions; reducing expenditure needed for operating and maintaining diesel-powered generators; and improving the delivery of development outcomes. While this is not a new concept in Kenya, its success has been limited, particularly in unlocking finance for energy access investments (Hivos 2021). This paper seeks to identify opportunities for integrating clean energy in Makueni’s CIDP 2023–2027, barriers to realizing these ambitions, and interventions needed to facilitate the integration. It focuses on four sectors, namely,

- agriculture, irrigation, and cooperative development;
- health;
- environment and climate change; and
- trade, marketing, and industry.

Integrated planning and budgeting

Integrated planning and budgeting (IPB) is an approach for connecting the planning functions of multiple units or departments and aligning operations, strategy, and financial performance (Brodnick 2016). It looks at planning across multiple functions, levels, locations, and other natural and artificial divisions. IPB investigates internal and external aspects to evaluate the best course of action. It employs multiple social dimensions, including the participation of all stakeholders and affected entities (Larkins 2022).

To achieve the goal of integrated planning, well-designed procedures are set and applied across the board. In the public sector, IPB requires proper coordination of both national and subnational governments and other relevant public institutions by bringing together economic, social, environmental, legal, and spatial aspects of development to produce a plan that meets the needs and targets set for the benefit of communities (SCUP 2024). These procedures are clearly specified in policies, laws, and guidelines.

Methodology and approach

The study adopted a mixed-method approach, applying quantitative and qualitative data and information reviews. Relevant policy documents from the national and county government levels were reviewed to provide a good understanding of the planning and budgeting process from both levels of government. Makueni’s CIDP, other relevant strategies for the county, and annual development plans and budgets were also reviewed to identify opportunities for IPB.

Further, the study conducted key informant interviews (KIIs) and filled in open-ended questionnaires with senior officials from various departments within the GMC. Those interviewed included County Executive Committee members, in their capacity as senior policymakers at the county level; chief officers, who are the accounting officers for the different departments; and directors, who are the technical experts in charge of planning processes. The study also conducted focused group discussions (FGDs) with experts from different departments, including Finance, Planning, Budget and Revenue; Infrastructure, Transport, Public Works, and Energy; and Agriculture, Irrigation, Livestock, Fisheries and Cooperative Development. Others included Devolution, Public Participation, County Administration and Special Programs; Lands, Urban Planning and Development, Environment and Climate Change; Trade, Marketing, Industry, Culture and Tourism; Health Services; and Water and Sanitation. The main thrust of the KIIs and FGDs focused on the planning process at the county level, including efforts and barriers to IPB. The entire data collection process was conducted between November 2023 and March 2024.

Finally, the study interviewed planning experts from national governments and development organizations working in public finance and planning to gather perspectives on opportunities for mainstreaming IPB at the subnational level.

Research findings

Priorities for expanding power generation and access in Makueni County

The new Makueni CEP 2023–2032 will require KSh 74.2 billion for its implementation to deliver clean energy for households, to power businesses, and to electrify social facilities. Of this sum, KSh 17.6 billion will fund utility-scale power generation projects from solar, wind, and hydro, while another KSh 23.7 billion will finance grid extension to connect households, businesses, and other social facilities. Another KSh 632 million will fund productive use of renewable energy (PURE) projects in the agriculture and health sectors as shown in Table 1 (GMC 2024b).

Under the CIDP 2023–2027, the GMC earmarked KSh 7.25 billion for investment in the energy sector (GMC 2023a). While this demonstrates the county’s commitment to provid-

Table 1 | Opportunities for investment in PURE that were identified while developing Makueni’s CEP

SUBSECTOR	PURE TECHNOLOGY	INVESTMENT NEEDED (KSH)	PROJECTS
Irrigation	Solar water pumps	191,465,670	Utangwa Irrigation Scheme, Makasa Irrigation Scheme, Kilungu Farmers, Kavuthu Coldroom, Kiboko Integrated Farmers
	Complete borehole construction and installation of submersible pump, plus water storage tank (10,000 liters) and plumbing work	1,571,220	Kitise Rural Development
	Total amount	193,036,890	
Agroprocessing	Mango puree evaporator	38,796,879	Makueni Fruit Processing Plant, Kalamba
	Multipurpose feed processing machine (PV system installation included)	80,760,192	Kitise Rural Development, Kiboko Integrated Farmers
	Total amount	119,557,071	
Cooling	42 solar incubators for 42 groups	17,343,663	Makueni County Aggregated Poultry PURE Investments
	Purchase and installation of additional cold rooms	24,510,000	Utangwa Irrigation Scheme, Emali modern market, Kiboko Integrated Farmers
	Chiller boxes	22,235,472	Kiboko Integrated Farmers, Kaiti Dairy Value Chain Co-op Society Limited, Kitise Rural Development
	Refrigerated truck	10,766,082	Kitise Rural Development
	Total amount	74,855,217	
Irrigation, cooling, and agroprocessing	Purchase and installation of solar PV systems to power various productive uses	244,671,075	Makueni Fruit Processing Plant, Kalamba; Kanoto Horticultural Farmers Society; Kilungu Farmers; Kavuthu Coldroom; Emali modern market; Kaiti Dairy Value Chain Co-op Society Limited; Kitise Rural Development
	Total	632,120,253	

Note: KSh = Kenyan shilling; PURE = productive use of renewable energy; PV = photovoltaic. Exchange rate: US\$1 = KSh 129.

Source: Adapted from GMC (2024b).

ing access to energy for the local population, this amount represents only 9.7 percent of the total funding needed under the CEP. Integrating energy in county development priorities will help unlock additional funding for investment in energy access interventions. This would also save the subnational government resources spent each year on operations and maintenance of diesel-powered generators while accelerating the county's development goals. This requires effective collaboration between all the sectors and departments during planning and budgeting to identify energy needs under planned priorities and investments required for the identified energy needs. However, this research found gaps in how sectors and departments collaborate, particularly with the energy department, which is critical in helping to identify opportunities and avenues for integrating clean energy.

Opportunities for integrating clean energy in Makueni's county development priorities under the CIDP 2023–2027

Makueni's CIDP 2023–2027 prioritizes six pillars designed to achieve its theme of creating a “resilient economy for sustainable development” (GMC 2023a), all of which require energy to thrive. Identifying opportunities for integrating energy would have dual benefits: unlocking finance for clean energy investment and realizing targeted development outcomes. The GMC has made progress in integrating clean energy into its development priorities. Mainstreaming these efforts across other sectors would play a significant role in closing energy access gaps while driving development in the county. Below is an analysis of the priorities under each pillar and an assessment of the opportunities for integrating clean energy under each priority.

Integrated water harvesting, storage, treatment, and distribution

Access to water is a significant challenge in Makueni County despite its role in the growth of sectors such as agriculture, industrialization, and urban development (GMC 2019). The county administration has set aside KSh 42.3 billion to strengthen the county's water infrastructure. Energy is required in every stage of the water value chain, including pumping from the source (e.g., borehole to a central collection point) and for distribution to end users. However, 76 boreholes across the county remain nonoperational due to a

lack of energy for groundwater pumping. At the same time, another 56 of those boreholes that had been fitted with diesel-powered generators operate below capacity due to the high cost of operations and maintenance. To address this challenge, the local administration allocated KSh 36 million to retrofit them with solar-powered water pumping systems. Prioritizing energy for all water sources will significantly help achieve the goal of providing water for all households and businesses in the county. As experts design their PURE interventions, they can include integrated solutions such as cooling and drying technologies to enhance access to energy in rural areas.

Agriculture and rural development

Agriculture is a major contributor to Makueni County's economy, contributing 27 percent as of 2022 (GMC 2023b). The subnational administration aims to support the sector in achieving food security and increasing income for local populations (GMC 2020). Access to affordable, reliable energy is central to realizing the agriculture sector's ambitions, including pumping water for irrigation, powering fruit and coffee processing factories, and operating milk cooling centers and poultry slaughterhouses.

While the county administration allocated KSh 10.5 billion toward these ambitions, this study revealed that the financial allocation did not guarantee consideration for energy integration. Thus, the investments may lack the energy needed to power the operations. Limited energy sector expertise within the different departments restricts their ability to assess energy needs and design the right power systems to supply electricity for planned projects. The challenge is further compounded by the limited or poor coordination across the sectors and departments, particularly during planning and budgeting. The energy department should collaborate with the agriculture department, provide the technical support needed to undertake such assessments, and provide technical guidance in planning and budgeting for energy integration. Table 2 analyzes energy needs and the potential for integrating clean energy across each identified priority.

Table 2 | Opportunities for integrating energy in Makueni County's agriculture and rural development sector

SECTOR: AGRICULTURE AND RURAL DEVELOPMENT		
SECTOR GOAL: TO MEANINGFULLY CONTRIBUTE TOWARD THE ATTAINMENT OF FOOD AND NUTRITION SECURITY, INCREASED HOUSEHOLD INCOME, AND VIBRANT COOPERATIVE MOVEMENT		
Intervention area	Allocated amount (KSh, millions)	Potential areas for integrating clean energy
Program name: Value chain development program		
Fruit value chain production	1,500	SWP for irrigation
Makueni Fruit Processing Plant	1,250	Solar energy for powering the processing plant and surrounding communities
Vegetable production increased	220	Solar energy for irrigation and cold storage
Industrial crop production increased	510	Energy for powering coffee processing plant
Pulses production increased	770	Energy for irrigation and agroprocessing
Cereal production increased	500	SWP and clean energy for agroprocessing
Cassava production increased	8.5	Energy to power cassava processing
Poultry production improved	500	Energy for powering hatchery, slaughterhouse, and walk-in cold rooms
Dairy production increased	750	Energy for powering milk chillers
Beef cattle production increased	100	Energy for processing hides and skin
Program name: Pest and disease control program		
Postharvest loss reduced	650	Provision of energy for cold storage and warehouses.
Program name: Irrigation development program		
Area under irrigated agriculture increased	4,200	Energy for powering irrigation
Program name: Climate change resilience building program		
Farmers and agricultural enterprise resilience improved	615	Energy for powering resilient agricultural production
Program name: Market access program		
Market access improved	345	Energy for powering market facilities and multipurpose laboratories
Total	11,918.5	

Note: SWP = solar water pump.

Source: GMC 2023a.

Health sector

Over 2023–27, the GMC has prioritized the continued delivery of quality health care services to its people by equipping and upgrading the largest referral hospital in the county (Makueni County Referral Hospital) with modern facilities. The administration has also prioritized establishing middle-level (levels 3 and 4) model health care facilities across the county, complete with modern medical equipment to deliver health care services to the local population. Access to affordable, reliable energy will be needed to achieve these ambitions (GMC 2022).

However, 44 health facilities in the county currently lack access to any form of power, and those that are connected experience unreliable supply, necessitating investment in expensive diesel backup generators (GMC 2024a). Coupled

with the high cost of grid electricity, these generators lead to high operating costs. To address this challenge, the GMC seeks to invest in solar photovoltaic (PV) systems (as shown in Table 3). Integrating such costs during design, planning, and budgeting will be key. However, consultations with experts indicated that during planning and design efforts, departments tend to focus on construction and equipping facilities with needed medical equipment, assuming that the energy department would identify means of providing electricity connection once construction is completed. However, because the energy department is not involved during the design phase, it is caught unprepared, with no budget line for such investments. The collaboration between the departments of health and energy will help integrate energy needs and unlock finance for health facility electrification during planning and budgeting.

Table 3 | **Potential opportunities for integrating energy in Makueni County's health sector**

SECTOR: HEALTH SECTOR		
SECTOR GOAL: ATTAINMENT OF UNIVERSAL HEALTH COVERAGE		
Intervention area	Allocated amount (KSh, millions)	Potential areas for energy intervention/ integration
Model subcounty hospitals constructed	1,000	Electrification using solar PV
Enhanced specialized clinical services	100	Improved access to reliable and affordable power
Improved diagnostic services	122	Improved access to reliable and affordable power
Improved efficiency through automation of health services	410	Improved energy for enhanced automation services
Total	1,632	

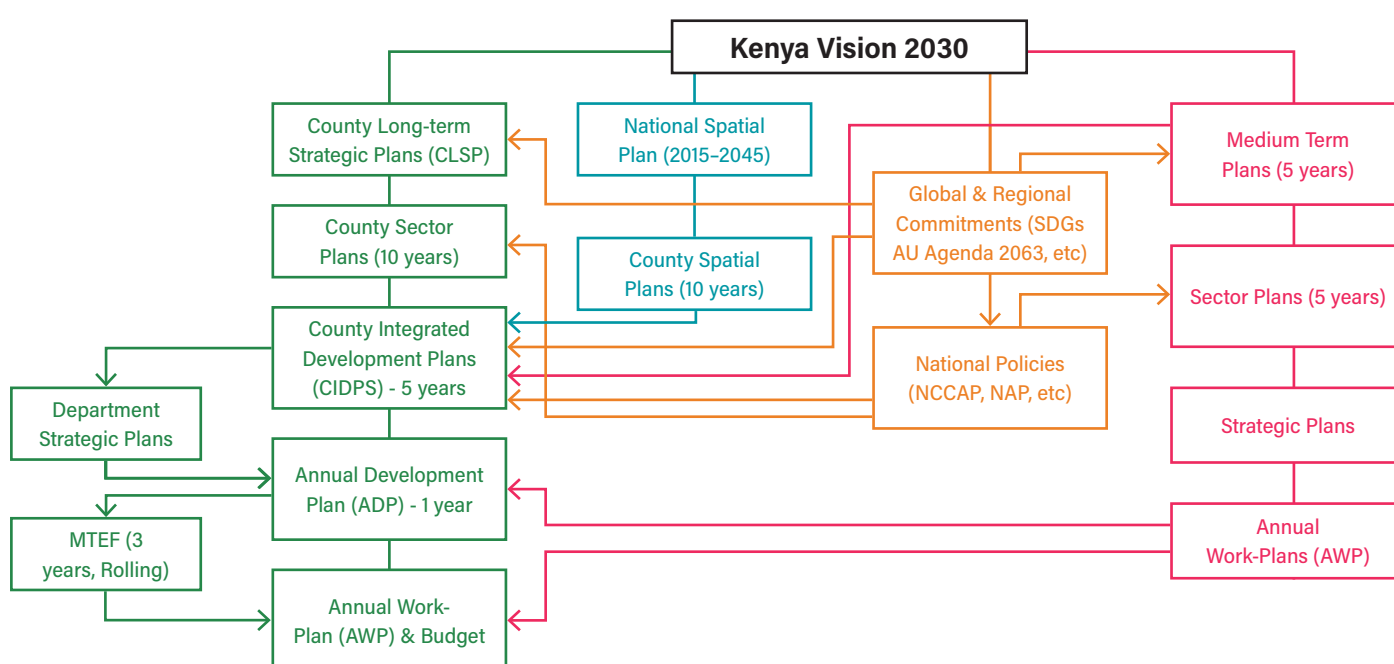
Notes: KSh = Kenyan shilling; PV = photovoltaic.
Source: GMC 2023a.

Approach to planning and budgeting in Kenya

■ While county governments have autonomy to manage their affairs, this study revealed the interdependence between national and subnational levels and how that affects IPB in the county. How planning is undertaken at both levels and whether officials at national and county governments stress the importance of IPB from the start can determine whether counties succeed with its implementation. Mainstreaming IPB at each stage would help integrate clean energy across different development

priorities, guaranteeing the allocation of funds to meet energy needs. Further, effective vertical coordination between national and county governments in the planning and budgeting process can influence the success of the implementation of IPB at the subnational level.

■ The section below outlines key policy and regulatory frameworks that guide development planning at the national and subnational levels and how these influence IPB at the county level. Figure 1 describes how the different steps for planning and budgeting connect, from Vision 2030 to annual plans and budgets.

Figure 1 | **Flow of planning and budgeting from national long-term plan down to annual plans and budgets**

Notes: AU = African Union; MTEF = Medium-Term Expenditure Framework; NAP = National Adaptation Plan; NCCAP = National Climate Change Action Plan; SDG = Sustainable Development Goal.

Source: WRI authors.

Policies and strategies that inform planning and budgeting at the national level

Three national-level policies inform development planning and the effectiveness of IPB at both levels of government. These include Vision 2030, the National Spatial Plan (NSP), and the Medium-Term Plan (MTP). Reinforcing the importance of IPB in each of these policies and strategies is critical to achieving the same in short-, medium-, and long-term planning and budgeting. Below is a description of each of these plans as well as their influence on the IPB process.

Vision 2030. Kenya's long-term development plan has guided national and subnational planning efforts since its adoption in 2008. Its development was informed by national aspirations articulated by different stakeholders and regional and global commitments and brought together local and international stakeholders and experts (GoK 2007). As the primary document that provides overall guidance on development planning and priorities, mainstreaming the importance of integrated energy planning right from the planning stage of Vision 2030 would ensure that the two levels of government fully adopt the approach. However, a review of documents revealed that Vision 2030 does not emphasize integrated energy planning; instead, it only refers to CIDPs.

National Spatial Plan (2015–2045). The NSP provides the spatial location of Vision 2030's flagship projects. The plan was developed by different stakeholders in 2015, including ministries and departments, institutions of higher learning, and county governments (GoK 2016). The NSP can be key in facilitating IPB at national- and county-level governments. For example, showing locations where the national government intends to establish irrigation projects can allow county administrators to jointly identify opportunities to integrate other PURE opportunities, including places where installation of solar PV would help power refrigerators to keep agricultural produce fresh; agroprocessing; or even charging infrastructure for electric mobility. With good planning, energy generated from these investments could also be extended to power neighboring households and other social loads. However, while the current NSP shows the geographic location of planned flagship projects, it does not articulate the need to identify other potential opportunities for integrated planning.

Medium-Term Plan. The MTP is a strategy crafted every five years to guide development priorities for national and county governments and partners. It also guides the implementation of Vision 2030 in five successive cycles. The MTP is critical for promoting IPB because it can help ensure that ministries, departments, county governments, and development partners mainstream the approach in their planning efforts. However, time constraints get in the way. After a general election, the

new administration controls and develops its MTP, which it is expected to finalize soon after being sworn into office. This does not provide sufficient room for meaningful consultation with relevant stakeholders on mainstreaming IPB effectively. Experts consulted during this research pointed to the need to adjust timelines. They made the following arguments:

- MTPs should be adopted before elections.
- Stakeholder consultations, reviews of the “outgoing” MTPs, and identification of priority programs and projects should be apolitical and led by technocrats.
- This analysis should inform the manifestos of the political parties and leaders.

This would ensure that regardless of who wins, the administration's manifesto would remain aligned with the plan.

In addition, the current MTP does not highlight the need for IPB to play a significant role in its implementation. Omitting this increases the likelihood of siloing, duplication, inefficiencies, and wasted resources. It also misses the opportunity to inspire ministries, departments, and counties to take an integrated approach as they develop and implement their plans.

Policies, plans, and strategies that inform planning and budgeting at the county level

Several county policies, plans, and strategies inform how planning and budgeting are done at the subnational level. IPB is especially important because these plans are interconnected. If an IPB approach is not used, energy needs will not be identified and resources for energy will not be allocated under the sectors in the annual plans and budgets. Mainstreaming integration of clean energy under each of these plans and strategies will play a critical role in unlocking finance for energy access investments. The following analysis of these plans includes opportunities for integrating energy across each of them.

The Long-Term Strategic Plan (LTSP) is the subnational equivalent of Vision 2030. It outlines the county's shared vision, which helps guide long-term development and planning (GoK n.d.). As the overarching document that provides the long-term vision of the county, as well as influencing other subnational plans and strategies, the LTSP could stress the significance of IPB in the realization of other development priorities as well as for the efficient deployment of resources. It could do this by drawing a direct connection between energy and other sector priorities as well as development partners as they generate and implement their plans. However, although Makueni's current LTSP was developed through a consultative process, this study's analysis found that the need for IPB and for integrating clean energy or collaboration among different sectors and departments was not adequately emphasized.

This can lead to a siloed approach in actual planning and resource allocation.

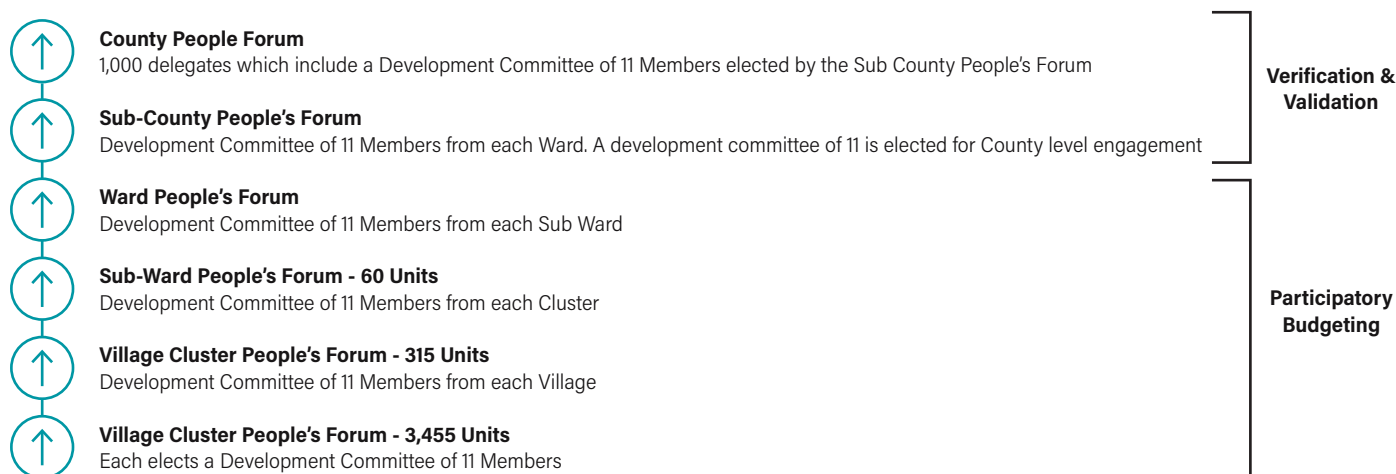
Based on the LTSP's vision, each county sector must develop a 10-year County Sector Plan (CSP) that **outlines** long-term priorities, programs, and projects to achieve. CSPs are reviewed every five years to inform the development of the CIDPs, capture performance targets, and estimate the costs of implementing them (GoK 2020b). The CSP development and review process provides a strategic opportunity for mainstreaming IPB, particularly energy integration. While developing programs and projects, sectors should collaborate with the energy department to identify energy needs and opportunities for integrating clean energy to power the sector priorities. However, members of different Sector Working Groups (SWGs) interviewed during this study indicated a lack of sufficient time to allow meaningful consultations to identify concrete opportunities for integration. A lack of proper guidance on what constitutes *integration* and how to achieve and measure it was also identified as a significant barrier.

Based on the CSPs, counties must develop their CIDPs, outlining their development priorities over the next five years (GoK 2020a). The new administration that forms the next county government is responsible for developing the CIDP. Inputs from stakeholders, including community members, nonstate actors, and development partners, as well as the national government's development priorities for that county, inform the priorities. Additionally, the previous CIDPs and CSPs are also reviewed to inform the new plan, as well as promises made by the incoming governor during election campaigns (GoK n.d.). The review of Makueni's CIDPs revealed a significant level of "integration" across departments. This was attributed to the call by the county governor for a "one-government approach" aimed at enhancing cross-sectoral collaboration. However, experts from different sectors and departments pointed toward competition over who controls the budget for the integrated function as a significant barrier to the realization of IPB. Additionally, the time frame for drafting the CIDP and the criteria for resource allocation were identified as other barriers. For example, because CIDP planning takes place during the transition period and is led by a newly elected county administration, this does not allow sufficient time for meaningful consultations between sectors and departments. To remedy this, experts recommended reviewing the previous CIDP before elections and having a politically neutral and independent committee to gather public input on priorities for the next CIDP as a potential remedy. This would allow priorities highlighted in the review to influence candidates' manifestos for office.

CIDPs are implemented through Annual Development Plans (ADPs), which integrate into Departmental Strategic Plans (DSPs). DSPs are developed yearly to guide department priorities, resource distribution, **and** performance management (GoK 2020a). DSPs should integrate energy needs with clear budget allocation. However, this study's research revealed that DSPs do not spur integration and cross-departmental collaboration, including in resource allocation, because different departments fight over control of resources. Stakeholders also indicated limited time and capacity for effective collaboration in developing the DSP as factors contributing to the lack of integrated DSPs. Even when directors come together at the tail end of the development of the DSP—which would be a strategic opportunity for ensuring integration and alignment—this ends up being a "status update" instead of a meaningful exercise that can help identify opportunities for collaboration and integration.

DSPs are then broken down into ADPs, which steer priorities from the CIDPs and DSPs into specific projects for funding and implementation during that year (GoK 2012b). Departments and SWGs appraise, prioritize, and estimate the cost of implementing the priority projects. This makes ADPs a key opportunity for IPB; departments and SWGs can identify those projects that would require energy for them to thrive and determine the amount of financing needed to implement them. However, experts from the county say planners developing the ADP do not have enough time for consultation across sectors and departments to identify opportunities for integrating energy and approaches for allocating resources. Even when planners are keen to collaborate, they face pushback from members of the Makueni County Assembly (MCA) during budget debates because the politicians do not appreciate the importance of integration. Instead, MCA members focus on the total budget they had lobbied for, with allocations to specific projects in their areas of representation. The planners believe that MCA members have vested interests and fail to understand the importance of IPB. They point to the need to sensitize and build the MCA's capacity to understand and appreciate IPB and to raise community awareness on the importance of integrating energy into priority development projects. They say building "bottom-up" demand would compel politicians to support such interventions during budget debates. This could be incorporated into the robust community participation structure established by the county government, as shown in Figure 2.

Figure 2 | **Steps followed during participatory budgeting in Makueni County's model**



Note: The County Budget and Economic Forum (CBEF) coordinates and collects views from the public during the budgeting process and functions as a think tank for the county government in terms of financial and economic management. See the "Guidelines for Formation and Functioning of CBEF," https://internationalbudget.org/wp-content/uploads/county_budget_guideline_.pdf.

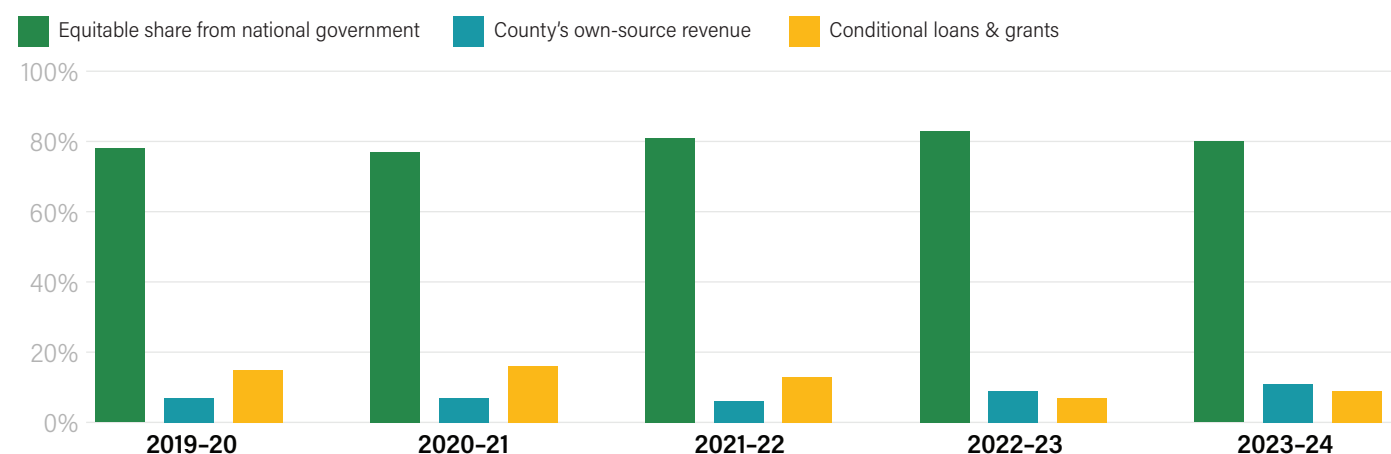
Source: Omolo et al. 2017.

The ADP is then translated into annual budget estimates, which allocate available resources to identified priorities. The County Fiscal Strategy Paper (CFSP) serves as the county's primary tool for resource allocation, economic planning, and fiscal policy direction, ensuring alignment with the Medium-Term Expenditure Framework (MTEF) and national development priorities while guiding the implementation of the CIDP and ADP. Makueni County's annual budget is mainly financed from three sources, including an equitable share of the county from the national government, the county's source revenue, and conditional allocations from loans and grants, as shown in Figure 3 (GoK 2021, 2023b, 2024).

Stakeholders cited the timelines followed while setting the budget ceiling—as established through the County Budget Review & Outlook Paper (CBROP)—as another key barrier

to building integrated budgets. The Department of Finance, Planning, Budget and Revenue proposes a budget, and a budget ceiling is set by the executive and approved by the MCA. This budget ceiling is for all departments and sectors to work with as they plan and allocate resources. This forces departments to quickly apportion the budget ceiling allocated to them to different priorities without consulting with other departments to identify potential areas of resource sharing, including energy investments. To address this and enhance integrated budget allocation, experts proposed connecting the process of developing the ADP with annual budget allocation, with clear guidance for departments to ensure integrated resource allocation. The outcome of this process is what should be used to guide the setting of sector ceilings.

Figure 3 | **Resource basket for the GMC budget**



Source: WRI authors, analysis of Makueni County budget.

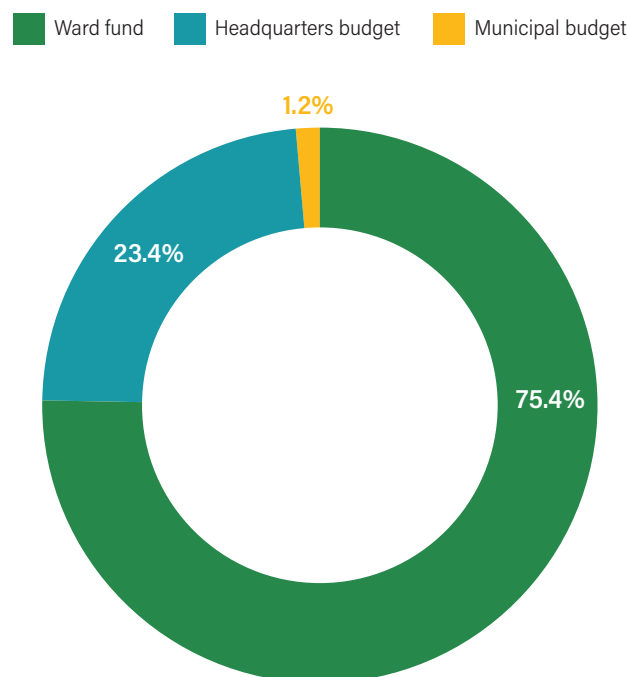
The GMC allocates its annual budget using three approaches: a ward fund, a “headquarters” (HQ) budget, and a municipal budget. A review of the 2023/24 annual budget revealed that more than 75 percent of the total budgetary allocation went through the ward fund, whereas the HQ and municipal budgets received 23.4 percent and 1.2 percent, respectively, as shown in Figure 4 (GoK 2024).

Under the ward fund, all electoral wards in the county receive an equal budget to finance the implementation of community projects in their areas. All departments share this allocation to finance the implementation of priority interventions identified in that ward. With numerous community needs competing for limited resources and the need to balance political promises, departments execute many small infrastructure projects—mainly in a siloed manner—to impress the communities and local politicians. This was identified as a significant barrier for IPB because departments focus on stand-alone projects that can be credited to them. It is important to note that equity implications of the ward fund are significant given the unequal development levels of various wards. The equal allocation across wards may disadvantage areas with greater energy access gaps, supporting the argument for more strategic integration approaches. County experts opined the need to review this model to reflect the local context, including the identification of locations with higher needs for energy investments to inform equitable distribution. Sensitizing local politicians and the community will also be key to securing their buy-in and support.

Under the HQ budget, the county administration sets aside funds for implementing flagship projects promised in the governor’s campaign manifesto, which was also incorporated in the CIDP. The current administration has prioritized seven sectors to be funded through the HQ budget. These include green energy development and promotion, government processes and services automation, integrated water development, social protection, and inclusive development. Others include county ward model health centers, the Makueni County urbanization agenda, and public service reengineering.

Finally, the municipal budget sets aside resources to fund urban projects identified by the county’s municipalities. Though energy is listed as a priority sector, only 4 percent of the KSh 2 billion HQ budget is allocated, which will not be sufficient to meet the energy requirements under all the priorities. Integrating energy in priority sectors would help unlock increased funding for the sector.

Figure 4 | **Distribution of annual budgetary allocation for Makueni County**

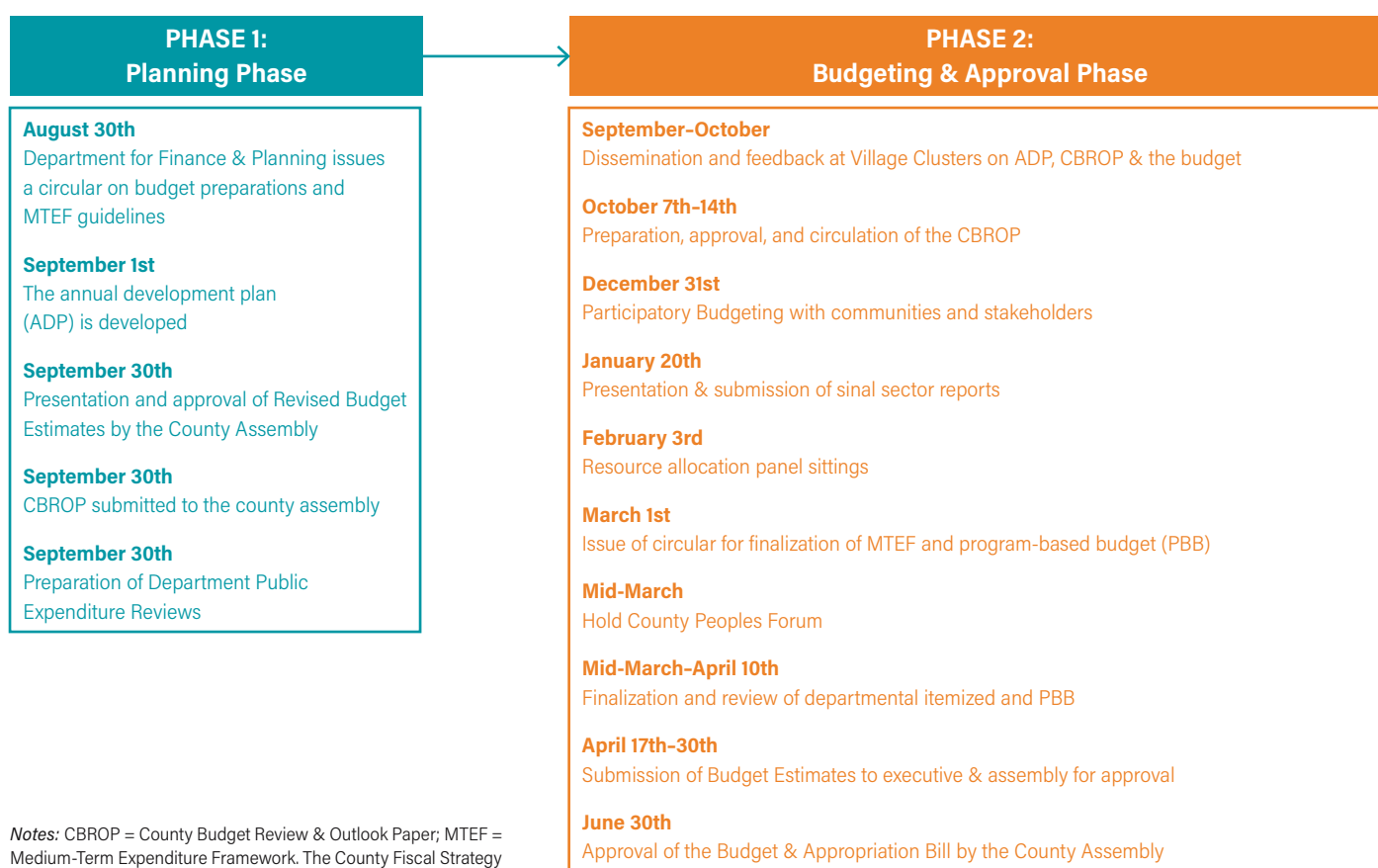


Source: WRI authors, analysis of Makueni County budget.

As financing from county budgets is insufficient to meet the priorities in the ADP, subnational governments leverage funding from other sources, including the national government and development partners. However, experts noted that the national government and development partners often fail to consult with county government departments while developing plans and budgets to implement some of these projects. This could lead to missed opportunities for IPB. Effective coordination with the national government and development partners would help identify some of the priority projects planned by these three stakeholders, identify energy needs, and develop an agreed approach to allocating the meager resources for the identified energy priorities. Close coordination between the two tiers of government and with development partners would be critical to realize these ambitions, thus enhancing resource efficiency.

Figure 5 summarizes the key phases of the budgeting process, the required documents, and the time frame.

Figure 5 | Summary of key steps in county planning and budgeting process



Notes: CBROP = County Budget Review & Outlook Paper; MTEF = Medium-Term Expenditure Framework. The County Fiscal Strategy Paper, which informs the sector ceilings, is submitted on February 28.
Source: WRI authors.

Interactions between national and county government and across sectors and departments that hamper IPB

To implement IPB successfully, national and county governments must prioritize it and coordinate their efforts. It is important for structured interactions between national and county governments to mainstream IPB while developing long- and medium-term plans so they can collaborate during project implementation. However, this study found challenges with effective vertical coordination, particularly a lack of information sharing between county and national governments. This affects planning and implementation, particularly for projects funded by the national government and development partners. County government officials indicated that they are not always consulted or made aware of some of such projects and only learn about them during implementation.

Additionally, the process for developing MTPs was highlighted as lacking sufficient inclusivity, particularly from county governments. Stakeholders indicated that county government engagement during the process is not enough to allow meaningful contributions from the subnational administrations, despite the expectation that they integrate MTP priorities in their CIDPs.

Collaboration between sector departments at the county level is generally positive in Makueni. However, this study found challenges—including trouble aligning plans and budgets between the national and county levels—that hinder coordination and collaboration and result in duplication of efforts. The timelines for developing the MTP and the CIDP were highlighted as significant barriers because both plans are supposed to be developed at both levels of government immediately after a new administration comes into office. Line ministries at the national level face similar consultation and coordination hurdles.

Barriers to IPB

The study identified five significant barriers to mainstreaming IPB in Makueni County:

- **Capacity gaps across departments to facilitate IPB.** Achieving ambitions for IPB requires political commitments and requisite capacity. While there are planners and economists in the departments for finance and planning, as well as some seconded to other departments, their capacity is limited compared to the amount of work needed to facilitate an integrated approach, including coordination with other departments

and sectors. Further, while the GMC has established a fully-fledged energy department, it has limited staff. Yet this is critical to supporting other departments in integrating energy in their plans and priorities.

- **Limited access to data and evidence to inform opportunities for integration.** Timely access to relevant data and information for planning and budgeting would significantly help planners to appreciate the value of IPB. For example, early access to data and information on projects being planned by other county departments and by the national government and development partners would help departmental planners identify opportunities for collaboration and building synergy. Additionally, information on the benefits of such integration, including resources that would be saved while still achieving sector priorities and goals would help demonstrate the untapped value of collaborations. While County Statistical Abstracts and CIDPs provide a good starting point, they are insufficient to provide the evidence needed during the development of annual plans and budgets.
- **Poor coordination between departments within the county government and with national government ministries.** Although the county's leadership has demonstrated its commitment to integrated planning, such as through the call for a one-government approach, poor coordination across county departments (horizontal) and between county and national governments (vertical) hinders realization of the ambitions. For example, although SWGs should facilitate consultations between county and national government departments in identifying opportunities for collaboration and resource sharing, there is a lack of meaningful engagement during the planning and budgeting process. Also, departments are provided with budget ceilings to inform the maximum allocation they should work with while developing their annual budgets. This denies the opportunity for collaboration because they only focus on their priorities without coordinating with peers. When they meet at the tail end of the planning process to exchange information on their priorities, there is little room for identifying potential integration and resource-sharing areas. Similar gaps exist in coordination between county departments and the national government ministries and departments during the planning process. For example, although the agriculture function was devolved to county governments, there are projects funded by development partners and implemented through national government structures at the county level. The projects come with a certain degree of autonomy, which reduces the opportunity for collaboration with county governments. This leads to potential duplication and misalignments between national and local priorities. Clear communication, mutual understanding of roles, and coordinated frameworks

are essential for effective collaboration. The absence of a defined coordination structure creates confusion. The weak linkage between national and county planning and other regional and international obligations was identified as one of the significant challenges in the devolution process (PBO 2023).

- **Competition for resources between sectors and departments.** The county leadership is keen to drive a one-government approach; however, a significant barrier to collaboration between departments in developing IPB is the uncertainty over who controls the "shared" budget. The ceiling-setting process must be reengineered to facilitate an integrated approach between departments. The budget circular provided by the finance and planning department should provide concrete guidance and incentives that will facilitate and ensure sectors and departments generate integrated plans and budgets.
- **Lack of recognition of energy as an enabler for development priorities.** Access to electricity is widely recognized as a fundamental enabler for socioeconomic development (Zhang et al. 2019). Several studies have attempted to estimate the benefits of electrification on households or small businesses, and they all reveal demonstrable impacts. However, the study identified that some departments fail to appreciate the role of energy in facilitating the realization of their sector priorities. Some of the departments would not even consult with or involve the energy department when planning for projects requiring electricity, assuming that once the infrastructure side of such projects has been completed, the energy department will take over and identify ways of providing the needed resources. Yet because the energy department was not aware of the plans, the built infrastructure is then either left without electricity connection or must find last-minute energy solutions, such as procuring diesel generators that prove to be costly and unsustainable in the long term.

Mainstreaming energy across county plans and budgets

Integrating clean energy into Makueni's development plans presents valuable opportunities for the county. Implementing Makueni's CEP is critical to delivering clean energy needed to power economic development, raise productivity, and provide opportunities and services for its people. Different stakeholders will play a major role in mobilizing finance for the plan's implementation in partnership with the GMC, which will also contribute its resources into the total budget. Mainstreaming the IPB approach, particularly by integrating energy into the county's development priorities, will play a major role in unlocking the finance.

In its CIDP 2023–2027, the county administration allocated KSh 5.85 billion for investments in the energy sector, representing a paltry 7.6 percent of the funding needed for the county’s energy sector as projected in Makueni’s CEP. A significant portion of this budget—KSh 5.3 billion (91 percent)—has been allocated to utility-scale power generation and distribution, with a very small amount going to decentralized renewable energy solutions. Although direct budget allocation to the energy sector is a move in the right direction, it also shows how minuscule the resources allocated are relative to the total investment needed for the entire energy sector. Identifying opportunities for integrating energy into other priorities and setting aside funds from those sectors to finance energy interventions will help bridge the financing gap for energy access investments.

The County Governments Act of 2012 requires that county resources only be used to fund the implementation of projects and programs that have been prioritized in the CIDP (GoK 2012a). Therefore, it is important to ensure that the county government’s financial commitments to deliver the CEP ambitions are integrated into the CIDP and are then prioritized in the annual plans and budgets. This will require county administration to ensure that energy needs and priorities are mainstreamed in all important county plans and strategies. These include the county’s LTSP, CSP, DSP, MTEF, and, finally, its annual plans and budgets. However, because county policies and strategies are influenced by national-level policies and strategies and development partners, it will also be important to ensure vertical alignment. This study has identified and clustered national- and county-level opportunities for integrating energy in development priorities into three phases, as shown in Figure 6. These include short-, medium-, and long-term opportunities.

The development of the next ADP and budgets (FY2025/26) presents an immediate short-term opportunity to integrate energy into the county’s development priorities. County departments and the public were involved in identifying priorities during CEP development, meaning there was broad ownership of the priorities. In developing the ADP and budgets for fiscal year 2025–26, the departments and SWGs should map out energy needs in their priority projects for the next year and integrate them into the ADP and budgets. Although the finance and planning department should play a key role in ensuring this integration, the energy department should also play a pivotal role in supporting other departments in identifying energy needs and developing their budget estimates. Similarly, through SWGs, the national government’s ministries, departments, and agencies (MDAs) working in Makueni County should consult with and align their priorities for the next fiscal year with the county’s priorities.

In the medium term (two to three years), three significant opportunities exist for integrating energy into the county’s

development plans. The first is the upcoming mid-term review of the 2023–27 CIDP, the second is the development of the MTEF, and the third is the development of the next LTSP.

Regarding the first opportunity, the county government is legally required to undertake a mid-term review of its CIDP. A review of the current CIDP is meant to happen in 2025. This provides a strategic opportunity to integrate energy priorities in the reviewed CIDP, thus guaranteeing financing from the county budget for the remaining plan implementation period. To mainstream the same in the budget, the finance and planning department should also integrate identified energy priorities in the MTEF for the period 2025–26, 2026–27, and 2027–28. Further, as the current LTSP (2016–25) for Makueni is set to be replaced at the beginning of 2026 (GMC 2016), this presents another unique opportunity for ensuring energy integration in the ambitions of the county’s long-term vision and agenda. The next LTSP for Makueni County should ensure that it strongly articulates the significance of ensuring integration between sectors and departments while planning and implementing their priority programs and projects.

Finally, in the long term (5+ years), there are both county- and national-level opportunities for integrating energy into the development plans and strategies. At the subnational level, the first opportunity involves the development of the next 10-year CSP, which helps to articulate the priorities of the different sectors. Departmental priorities and CIDP interventions are drawn from the CSP, so it is important to ensure that it identifies opportunities where energy integration would play a role in realizing the sector’s ambitions and goals. The next-generation CIDP (2028–32) will align with the set timelines for implementing Makueni’s CEP. As such, deliberate efforts need to be made to ensure the alignment of the two. County government departments and SWGs should be involved in identifying energy needs and integrating them into sector priorities and projects. The national government and development partners, such as the African Development Bank and the World Bank, should also ensure that their development plans for the county align with those in the CIDP.

At the national level, there are four significant opportunities:

- Developing the next national long-term strategy (replacing Vision 2030)
- Integrating energy in the next MTP (2028–32)
- Mainstreaming energy in the national sector plans and strategies
- Ensuring that the development of the integrated national energy plan identifies county development priorities where energy integration would play a catalytic role in realizing social and economic development

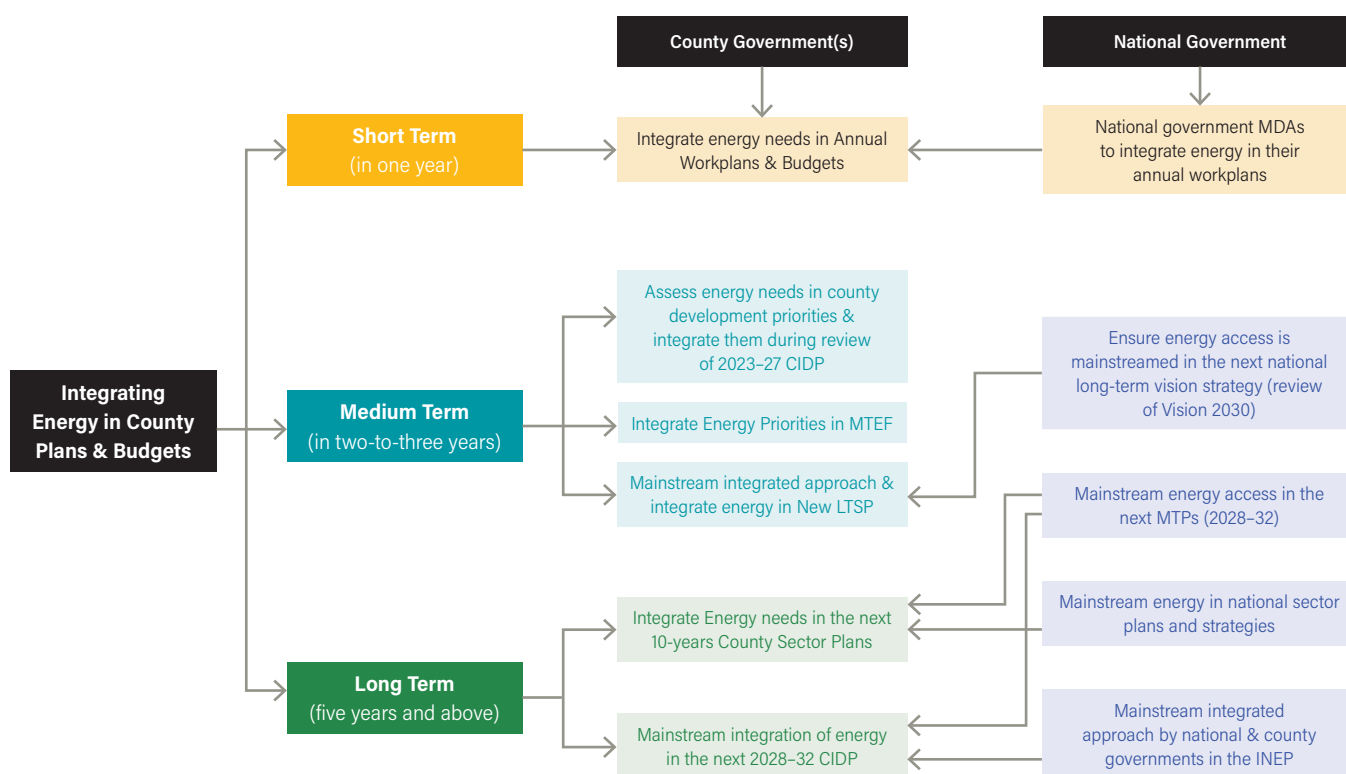
As the long-term strategy, Kenya's Vision 2030 guides national and local planning. The next national long-term strategy should ensure proper energy integration in identified development priorities. For line ministries and departments in the national and county governments, this will signal the need for proper integration during planning and budgeting. Similarly, as MTPs play a significant role in guiding county administrations during the development of their CIDPs, it will be important for the national government to ensure that the next MTP (2028–32) adequately integrates energy needs, particularly where the national administration is planning development programs at the subnational level. Robust consultations will be critical to ensure alignment with county administrations' long-term plans. Further, in aligning their departmental and sector plans with the MTPs, MDAs should integrate energy needs with their plans and priorities for the county.

Recommendations

Although IPB is not a new concept in Kenya, its success has been limited (Hivos 2021). Requirements for counties to develop a CIDP and CEP present a strategic opportunity to mainstream an integrated approach to planning and budgeting, particularly at the nexus of energy and development priorities. The following are key recommendations for doing this:

- **Strengthen the capacity of county-level planners from all departments and relevant county assembly committees.** This includes providing training services, relevant tools, and guidelines for ensuring integration and potentially seconding experts with the requisite capacity and skills for integration to help.
- **Bolster the use of data and evidence to promote IPB.** Provide data and evidence on the benefits of integrating energy to realize county development priorities. While the GMC has collaborated with the Kenya National Bureau of Statistics to collect data to inform county-level planning, additional data can help showcase the opportunities for and benefits of integrating energy into county development priorities. Two data platforms in Makueni, including the county spatial plan and Energy Access Explorer (Box 1), can be overlaid to play this role. Integrating data from these platforms would help provide evidence on locations of priority development projects, thus informing prioritization of energy investment in an integrated fashion. There is also the need to identify indicators and metrics that departments and sectors can use to track energy integration in their plans and budgets. These indicators should be incorporated into the County Integrated Monitoring & Evaluation System.

Figure 6 | Opportunities and steps needed to integrate energy in Makueni's CEP



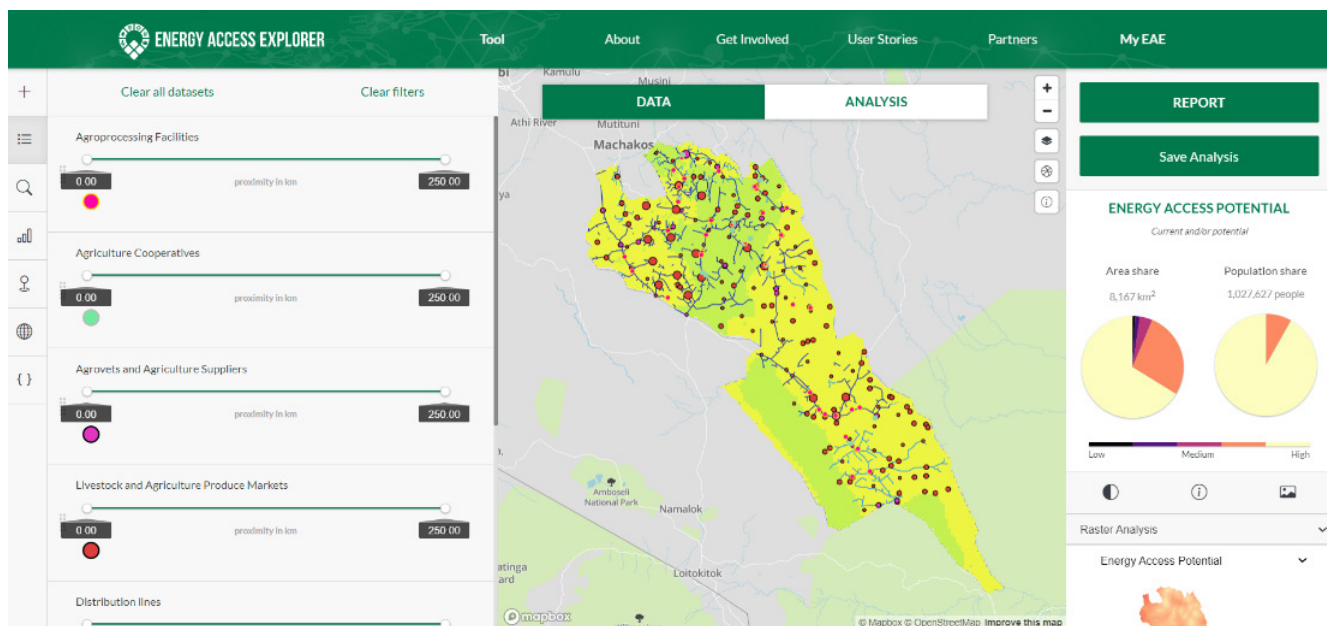
Notes: CIDP = County Integrated Development Plan; INEP = Integrated National Energy Plan; LTSP = Long-Term Strategic Plan; MDAs = ministries, departments, and agencies; MTEF = Medium-Term Expenditure Framework.

Source: WRI authors.

Box 1 | Energy Access Explorer

Energy Access Explorer (EAE) is an online, open-source, interactive platform that uses geospatial mapping to visualize and identify high-priority areas where energy markets can be expanded in under-served areas across Africa and Asia. The tool enables energy planners, clean energy entrepreneurs, donors, and development institutions to identify high-priority areas for energy access interventions. EAE functions also as a dynamic information system, reducing software engineering and data transaction costs for both data providers and users and facilitating data management and governance. EAE synthesizes and analyzes more than 50 geographic data sets (per geography) on both energy supply and demand. It runs multicriteria analysis that uses location-specific resource availability and infrastructure data to represent energy supply. It also incorporates demographic data and data on social and productive uses to visualize demand for energy services. Together, these supply-and-demand indicators enable more comprehensive energy planning. Spatial analysis tools, including multicriteria analysis, overlays, filters, and buffer zones help users identify and prioritize areas where energy access can be expanded.

FIGURE B1-1: EAE VISUALIZATION OF PURE PROJECTS IN MAKUENI COUNTY



Source: Energy Access Explorer, <https://www.energyaccessexplorer.org/>.

■ Align the plans and budgets of the county administration, national government, and development partners.

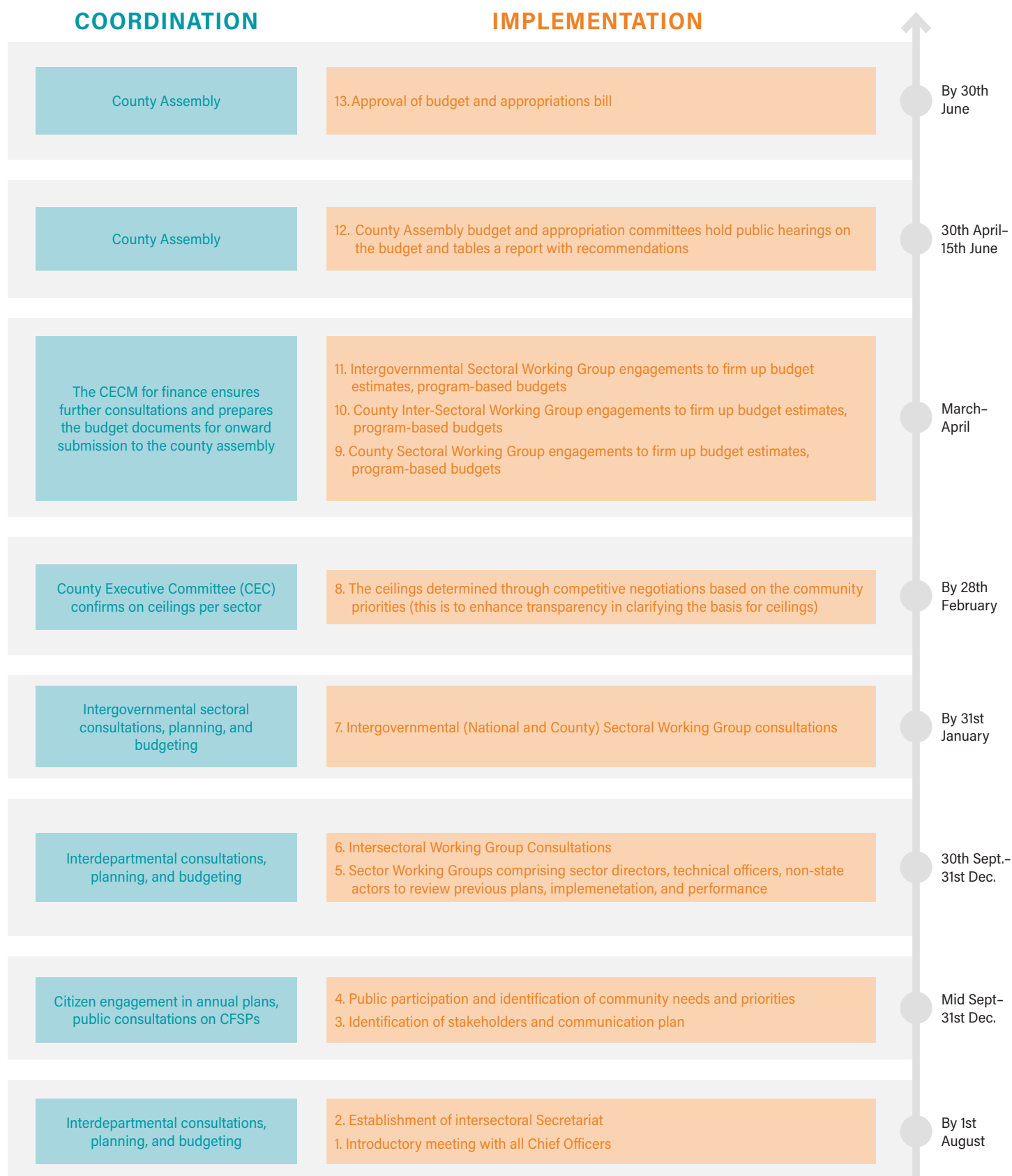
Alignment in planning and budgeting is needed to enhance resource efficiency while minimizing duplication between the two tiers of government. County officials must provide guidance on development priorities and opportunities for integrating energy to achieve them. However, the national government and the development partners also need to align their plans and budgets with the guidance provided by the county plans and budgets. SWGs provide such platforms but need strengthening to play more meaningful roles in these efforts.

■ Integrate energy priorities (as captured under the CEP) into the CIDP. It will be important to ensure that CEP priorities are integrated into the CIDP. The upcoming mid-term review for the 2023–27 CIDP scheduled for 2025 presents a strategic opportunity to ensure the integration of energy priorities in the development plan. In the long term, it will be important to ensure that the next-generation CIDP (2028–32) integrates

energy priorities. To overcome the tension surrounding the holder of the energy budget, stakeholders interviewed during this study—including representatives from the energy department—suggested that core departments, such as agriculture, should be responsible for managing such resources for electrification efforts, with the energy department providing technical guidance.

■ Develop, adopt, and use a guiding framework and tools to steer the mainstreaming of IPB. Despite commitments to a one-government approach, this study found that a major gap was the absence of a guiding framework on “how to integrate energy in the county plans and budgets.” A key recommendation from the finance and planning department was a comprehensive framework and tools that departments and sectors can use to guide them in integrating energy into their plans and budgets. Through this study, World Resources Institute (WRI), in consultation with experts from the GMC, developed a draft guiding framework (Appendix A).

Appendix A: Summary of proposed Makueni County IPB framework



Notes: CECM = County Executive Committee member; CFSP = County Fiscal Strategy Paper.

Source: WRI authors and Centre for Economic Governance.

Abbreviations

ADP	Annual Development Plan
AU	African Union
CBROP	County Budget Review & Outlook Paper
CECM	County Executive Committee member
CEP	County Energy Plan
CFSP	County Fiscal Strategy Paper
CIDP	County Integrated Development Plan
CSP	County Sector Plan
DSP	Departmental Strategic Plan
EAE	Energy Access Explorer
FGD	focused group discussion
FY	fiscal year
GMC	Government of Makueni County
GoK	Government of Kenya
HQ	headquarters
INEP	Integrated National Energy Plan
IPB	integrated planning and budgeting
KII	key informant interview
KSh	Kenyan shilling
LTSP	Long-Term Strategic Plan
MCA	Makueni County Assembly
MDAs	ministries, departments, and agencies
MTEF	Medium-Term Expenditure Framework
MTP	Medium-Term Plan
NAP	National Adaptation Plan
NCCAP	National Climate Change Action Plan
NSP	National Spatial Plan
PURE	productive use of renewable energy
PV	photovoltaic
SDG	Sustainable Development Goal
SWG	Sector Working Group
SWP	solar water pump

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Acknowledgments

The publication of this working paper was made possible through the generous support of the IKEA Foundation, which funded our work. This study's insights are the fruits of a collaborative partnership with the GMC, where we have codeveloped the Makueni Energy Plan and PURE investment prospectus and are now finalizing the county energy policy. This work would not have been achievable without the active participation of officials from the GMC (County Executive Committee members, chief officers, directors, and technical experts from the county's departments), who generously contributed through surveys and key informant interviews with their willingness to share data, knowledge, and insights.

Our appreciation goes out to the reviewers who provided insightful feedback and comments through the peer review process, including internal reviewers from WRI: Obadiah Mungai, Ashim Roy, Victor Otieno, Lanvin Concessao, Harsha Meenawat, and Amit Kumar. We also extend our recognition to our external reviewers for their valuable input in finalizing the paper: Sarah Odera, Stanlus Matheka, Kenneth Kigundu, and Rose Wanjiru. Special thanks to the Centre for Economic Governance, whose rigorous planning and budgeting analysis was instrumental in the development of a guiding framework for IPB for Makueni County.

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