Renewable energy investment factsheet:

Kenya

1. Macroeconomic profile

Population	**~55 million (2023)**
GDP growth	~5.6% (2023)
Historic GDP growth	~5.4% annual average (2010-2020)
Projected GDP growth	~5.6% (2025)
GNI (or GDP) per capita	~USD 2,110 (2023)
Inflation rate	~6–7% (2024)
Fiscal deficit	~5% of GDP (2024)
Youth unemployment	~12.23% (2023)
Ease of doing business rank	~56 (2020)

Major macroeconomic plans

Kenya's **Vision 2030** is the country's long-term development blueprint aimed at transforming Kenya into a globally competitive and prosperous nation by 2030.

The vision is anchored on three key pillars: **economic, social and political**, supported by foundational enablers such as infrastructure, science and technology, and governance reforms. The vision emphasises sustainable economic growth, social equity, and environmental sustainability. Key priorities include:

- **Foundations for national transformation**: Developing world-class infrastructure, enhancing ICT connectivity, and advancing science and technology to drive innovation and productivity.
- **Economic pillar**: Achieving sustained economic growth through agriculture, manufacturing, tourism, and trade, while promoting value addition and industrialisation.
- **Social pillar**: Investing in education, healthcare, housing, and social protection to build a just and cohesive society.
- **Environmental sustainability**: Promoting renewable energy, increasing forest cover, and implementing climate-smart practices to ensure sustainable development.
- **Governance and devolution**: Strengthening public sector reforms, enhancing transparency, and promoting devolution for equitable development (Vision 2030 Delivery Secretariat, 2022).

Key economic transformation goals

Indicator	2021	2030 target	Expected impact
Annual GDP growth	7.50%	10%+	Sustainable economic expansion, job creation, and poverty reduction.
Food security		100%	Reduced inequality and improved welfare for all citizens.
Blue economy	0.60% of GDP	10% of GDP	Increased value-added exports, and job creation.
Housing		500 000 affordable housing	Improve lives and livelihoods
Renewable energy share	75%	100%	Transition to a green economy and reduced reliance on fossil fuels.
Tourism earnings	KSh 146.5 billion	KSh 500 billion	Increased foreign exchange earnings and job creation in the tourism sector.

2. Energy profile

Installed capacity	3 246 MW (as of September 2023)
Renewable energy share	92% (as of 2023)
Hydropower	839 MW (25.8% of total installed capacity)
Geothermal	940 MW (29% of total installed capacity)
Wind energy	436 MW (13.4% of total installed capacity)
Solar energy	210 MW (6.5% of total installed capacity)
Electricity access	76% (2021)
Urban electricity access	98% (2022)
Rural electricity access	65.6% (2022)

Energy transition and green industry development plans

Plan/strategy	Objective	Targets
Energy transition and investment plan	Achieve net-zero emissions by 2050 while promoting green industrialisation.	100% clean energy by 2030 and 100GW of renewable energy by 2040. Reduce greenhouse gas emissions by 32% by 2030 compared to the Business-as-Usual scenario.
Universal electrification and clean cooking	Ensure universal access to electricity and clean cooking solutions.	100% electrification by 2030 and universal access to modern cooking services by 2028. Increase clean cooking access from 30% (2020) to 100% by 2028.
Grid modernisation and expansion plan	Modernise and expand grid infrastructure to support renewable energy.	Double the transmission network with 4,600 km of new lines, 36 high-voltage substations, and 400kV/500kV DC lines. Develop 250 MW of battery energy storage by 2025.
Green hydrogen strategy and roadmap	Transition to renewable energy and green hydrogen.	Add 150 MW of renewable energy for hydrogen and 100 MW of electrolyser capacity by 2027. Develop 3,450-450MW of hydrogen-dedicated renewables between 2028 and 2032.
e-mobility and transport electrification	Promote electric mobility and sustainable transport.	Aim for 5% of newly registered vehicles to be electric by 2025. Expand e-mobility infrastructure and support the adoption of electric vehicles, bicycles and tuk-tuks.
Energy efficiency and conservation strategy	Enhance energy efficiency and conservation.	Achieve 2.8% annual energy efficiency improvements. Develop regulations and standards for energy efficiency, e-mobility, and modern cooking technologies.
Green industrialisation and manufacturing	Develop green industries and local manufacturing.	Support investments in green industries, including utility-scale battery production and critical mineral processing. Establish a Center of Excellence for Renewable Energy.
Grid flexibility and reliability plan	Improve grid flexibility and reliability.	Implement Automatic Generation Control (AGC), hydromet forecasting, battery storage, and reactive power compensation devices. Upgrade transmission lines and substations for grid stability and resilience.
Decentralised renewable energy solutions	Foster decentralised renewable energy solutions for rural areas.	Promote mini-grids and off-grid solutions for productive use applications like agriculture. Increase rural electricity access from 68.2% (2021) to 100% by 2030.

Key renewable energy policies & incentives

	Policy/incentive	Objective
Regulatory measures	Feed-in tariffs, net metering, renewable heat obligation, fossil fuel ban.	Encourage renewable energy integration, decentralisation, and cost reductions.
Fiscal incentives	VAT reductions, sales tax reductions, public financing, and capital subsidies.	Lower investment costs for private developers and industries.
Public investments	Loans, grants, and capital subsidies (e.g., World Bank, GIZ, KfW projects).	Support renewable project financing and infrastructure development.
Investment climate	Streamlined licensing, competitive bidding for PPAs, risk guarantee facilities.	Increase transparency, investor confidence, and de-risk projects.
Off-grid electrification	Mini-grid and standalone solar home system programs (e.g., KOSAP).	Expand electricity access to remote and underserved areas.
Electric mobility	E-mobility policy, charging infrastructure investment, and incentives for EVs.	Reduce transport emissions and promote electric vehicles.
Clean cooking	Improved cookstove distribution, LPG promotion, and clean cooking mandates.	Reduce biomass reliance, improve health, and lower emissions.
Energy transition goals	100% clean energy by 2030 and 100GW of renewable energy by 2040.	Increase renewable generation from solar, wind, geothermal, and hydro.

Major strategies and incentives targeting RE investments

- Long-term Power Purchase Agreements (15-20 years) to attract private investment.
- VAT and import duty exemptions for renewable energy equipment to lower costs.
- PPPs promoted large-scale renewable projects.
- Renewable Energy Auctions planned, including solar and wind projects,
- The government has sponsored risk guarantee mechanisms for geothermal exploration and large-scale solar and wind projects.
- Pilot green hydrogen projects planned to open the sector
- Off-grid programmes developed such as KOSAP to expand access
- Large battery storage projects planned to stabilise grid

Energy Sector Bottlenecks to be addressed

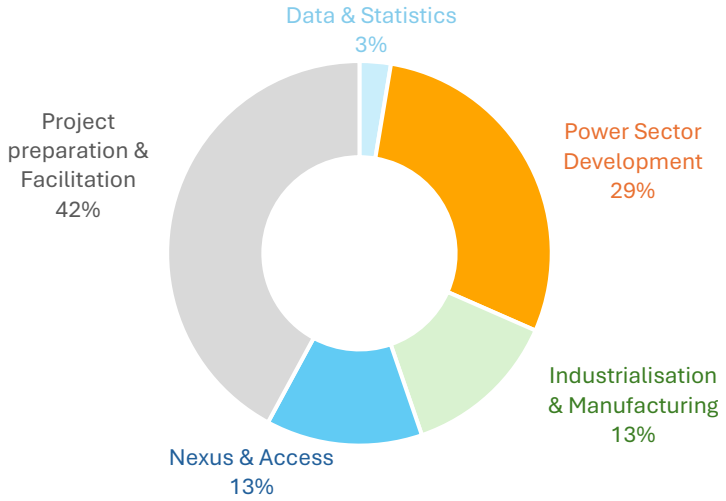
Bottleneck	Impact	Government Efforts (Ongoing)
High dependence on radial transmission lines	Creates grid imbalances, vulnerability to outages, and curtailment of renewable energy.	Modernising the grid with 4,600 km of new lines, 36 substations, and 400 kV / 500 kV DC lines.
Demand-supply imbalance	Energy curtailment during low demand and shortages during peak hours.	Investing in battery storage (100 MW) and reactive power control devices to stabilise the grid.
Under-investment in infrastructure	Leads to load shedding despite available generation capacity.	Expanding transmission infrastructure through PPPs and the Transmission Grid Expansion Programme.
High system losses (22.8%)	Reduces financial sustainability of utilities and increases costs.	Implementing smart grids, prepaid metering, and upgrading aging distribution infrastructure.
Long lead times for project development	Delays in generation and transmission projects due to land acquisition and permitting.	Streamlining licensing processes and addressing permitting challenges.
Policy uncertainty	Discourages investment due to frequent changes in tax regimes and delays in regulations.	Finalising regulations for electricity markets, bulk supply, and open access.
Inadequate technical capacity	Limits system planning, operations, and maintenance efficiency.	Capacity building for grid operation, renewable energy project development, and climate action.
Low rural electrification rates	Slows progress toward universal electricity access by 2030.	Expanding off-grid solutions like mini-grids and solar home systems through programs like KOSAP.
Reliance on traditional biomass	Health and environmental impacts, with 70% of households using biomass.	Promoting clean cooking solutions, including LPG and improved cookstoves.
Inadequate spinning reserves	Makes the power system vulnerable to outages and imbalances.	Implementing Automatic Generation Control (AGC) and hydromet forecasting to improve grid stability.

3. Country engagement

Kenya's engagement began with a consultation on 31 August–1 September 2023 to assess its renewable energy and industrial transition goals. Priorities identified include universal electrification, e-mobility, and grid modernisation. The action plan outlines key interventions in policy, finance, renewables, regulation, green hydrogen, storage, and capacity building to drive a net-zero transition and economic growth.

Number of actions: 38

Distribution of actions by thematic areas



4. Investment prospects

Investing in Kenya offers access to one of Africa's most dynamic renewable energy markets. With a grid 92% powered by renewables and targets of 100% clean energy by 2030 and 100 GW by 2040, Kenya leads in solar, wind, and geothermal. Expanding grid infrastructure, battery storage, and e-mobility further enhance its investment appeal. Strong policies, fiscal incentives, and a strategic location position Kenya as a premier hub for renewable energy, green manufacturing, and critical mineral processing.