



Renewable energy investment factsheet:

Rwanda

1. Macroeconomic profile

Population	~14.2 million (2025)
GDP growth	~8.2% (2023)
Historic GDP growth	~6.5% annual average (2010–2023)
Projected GDP growth	~6.5% (2025 projection)
GDP per capita	~\$990 (2025)
Inflation rate	6.8% (2024)
Fiscal deficit	~7.0% of GDP (2023)
Unemployment rate	~40% (2023)
Ease of doing business rank	~38 (2020)

Major macroeconomic plans

Rwanda's Vision 2050 is a long-term strategic blueprint aimed at transforming the country into an upper-middle-income economy by 2035 and a high-income economy by 2050. The plan emphasises sustainable economic growth, high-quality life for all Rwandans, and environmental sustainability. Key priorities include:

- **Economic growth and prosperity:** Achieving sustained economic growth through increased productivity, innovation, and competitiveness, with a focus on creating wealth and decent jobs for all Rwandans.
- **Human development:** Ensuring universal access to high-quality healthcare, education, and social protection to build a healthy, skilled, and productive population.
- **Agriculture for wealth creation:** Transforming agriculture into a modern, market-oriented, and climate-resilient sector to enhance productivity, food security, and export potential.



- **Urbanisation and agglomeration:** Promoting sustainable urbanisation to create economic opportunities, improve access to services, and enhance the quality of life for urban and rural populations.
- **Accountable and capable state institutions:** Strengthening governance, rule of law, and public service delivery to ensure effective implementation of development policies and programs.

The plan also focuses on leveraging Rwanda's demographic dividend, promoting private sector-led growth, and deepening regional integration. It aligns with global and regional development frameworks, including the United Nations Sustainable Development Goals (SDGs), the African Union Agenda 2063, and the East African Community Vision 2050 (Rwanda Vision 2050).

Key economic transformation goals

Indicator	2020 baseline	2035 target	2050 target	Expected impact
GDP per capita (USD)	837 (2019)	4 036	12 476	Transition to upper-middle-income status by 2035 and high-income status by 2050.
Life expectancy (years)	67.8	71.7	73	Improved health outcomes and quality of life for all Rwandans.
Unemployment Rate (%)	15.2 (2019)	7	5	Increased job creation and reduced unemployment, particularly among youth.
Industry GDP share (%)	19 (2019)	24	33	Diversified economy with a stronger industrial base and increased value-added exports.
Access to electricity (%)	56	100	100	Universal access to reliable and affordable energy, supporting economic growth.
Access to clean water (%)	87.4 (2016/17)	100	100	Improved access to safe drinking water, enhancing public health and quality of life.
Child stunting (%)	33	5.5	3	Reduced malnutrition, contributing to better health and productivity.



2. Energy profile

Installed capacity	408 MW (total on-grid generation capacity as of 2022)
Renewable energy share	53% of total electricity generation
Hydropower	40% of total installed capacity
Wind energy	Wind speeds of 7-8 m/s ² at 100-metre hub height in many areas
Solar energy	Solar accounts for a portion of the 53% renewable share, with off-grid solutions growing
Electricity access	75% of households have access to electricity (2023)
Urban electricity access	98%
Rural electricity access	38.20%

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.	Increase renewable energy share to 60% by 2030. Expand installed capacity to 556 MW by 2030. Reduce greenhouse gas emissions by 38% by 2030.
Universal electrification and clean cooking	Ensure universal access to electricity and clean cooking solutions.	Achieve 100% electrification by 2024. Reduce reliance on wood fuel for cooking from 79% to 42% by 2030. Install 68 MW of solar mini-grids in rural areas by 2030.
Grid modernisation and expansion plan	Modernise and expand grid infrastructure to support renewable energy.	Expand high-voltage transmission network by 600 km (110kV-120kV). Increase total on-grid capacity from 408 MW (2022) to 556 MW by 2030. Reduce transmission and distribution losses.
Green industrialisation and manufacturing	Develop green industries and local manufacturing.	Stimulate private investment in local electric vehicle production. Support renewable energy project financing and local supplier engagement.
Decentralised renewable energy solutions	Foster decentralised renewable energy solutions for rural areas.	Expand off-grid access. Promote solar-powered irrigation to increase irrigated land from 48 598 to 102 284 hectares.



Key renewable energy policies & incentives

	Policy/incentive	Objective
Regulatory measures	Renewable Energy Targets in NDC, Least Cost Power Development Plan (LCPDP), National Electrification Strategy	Encourage renewable energy integration, decentralisation, and cost reductions. Strengthen regulatory frameworks to support grid and off-grid expansion.
Fiscal incentives	Subsidies for off-grid solar systems, concessional loans, carbon financing under the Paris Agreement	Lower investment costs for private developers and industries. Improve affordability for consumers through tailored financing solutions.
Off-grid electrification	Expansion of mini-grid and standalone solar home system programs	Increase rural electricity access to 72% through grid extension and 28% via off-grid solutions by 2030. Enhance private sector participation in off-grid energy solutions.
Clean cooking	Improved cookstove programs, LPG and electric cooking promotion, subsidised clean cooking technologies	Reduce reliance on biomass for cooking from 79% to 42% by 2030. Improve public health and lower deforestation rates through modern cooking technologies.
Energy transition goals	60% renewable energy target by 2030, expansion of installed capacity to 556 MW, Green Growth and Climate Resilience Strategy	Increase renewable energy generation and reduce greenhouse gas emissions by 38% by 2030. Support green industrialisation and grid modernisation for sustainable development.

Major strategies and incentives targeting RE investments

- Long-term Power Purchase Agreements (PPAs) to attract private investment in renewable energy projects, particularly in hydropower and solar energy.
- VAT and import duty exemptions approved for electric vehicles (EVs) and renewable energy equipment to lower investment costs and encourage adoption.
- Results-Based Financing (RBF) mechanisms introduced for clean cooking solutions and solar home systems, supported by EU funding (ReCIC) and the World Bank.
- Carbon financing mechanisms implemented under the Paris Agreement Crediting Mechanism (PACM) to mobilise funds for renewable energy projects.
- Subsidies for clean cooking technologies, targeting 500 000 households by 2030, to reduce reliance on biomass for cooking.



Energy sector bottlenecks to be addressed

Bottleneck	Impact	Government efforts (ongoing)
High dependence on biomass for cooking	Causes deforestation, indoor air pollution, and health risks.	Promoting clean cooking solutions with subsidies, targeting 500 000 households by 2030.
Limited electrification in rural areas	Slows economic development and access to modern energy.	Expanding off-grid solutions with a 72%-28% grid-off-grid electrification strategy.
Underdeveloped transmission infrastructure	Causes high transmission losses (estimated at 16%) and power instability.	Expanding grid infrastructure with over 600 km of new high-voltage transmission lines.
High upfront costs for off-grid energy	Limits private sector investment and slows mini-grid deployment.	Implementing Results-Based Financing (RBF) for off-grid solar and mini-grids with international support.
Weak regulatory framework for renewables	Creates uncertainty for investors and delays project execution.	Updated policies to promote local supplier engagement and improve financing access.
Climate vulnerability of hydropower	Seasonal variability threatens Rwanda's energy security.	Diversifying energy mix by increasing solar, wind, and battery storage solutions.
Limited private sector involvement in energy	Slows investment in renewable energy and grid expansion.	Introducing PPP models, tax incentives, and risk-mitigation instruments for investors.
Low access to electric mobility solutions	High reliance on fuel-based vehicles increases emissions.	Targeting 20% of buses, 30% of motorcycles, and 8% of cars to be electric by 2030.
Insufficient financing options for RE projects	Slows down renewable energy deployment.	Strengthening local financial institutions and facilitating carbon financing mechanisms.

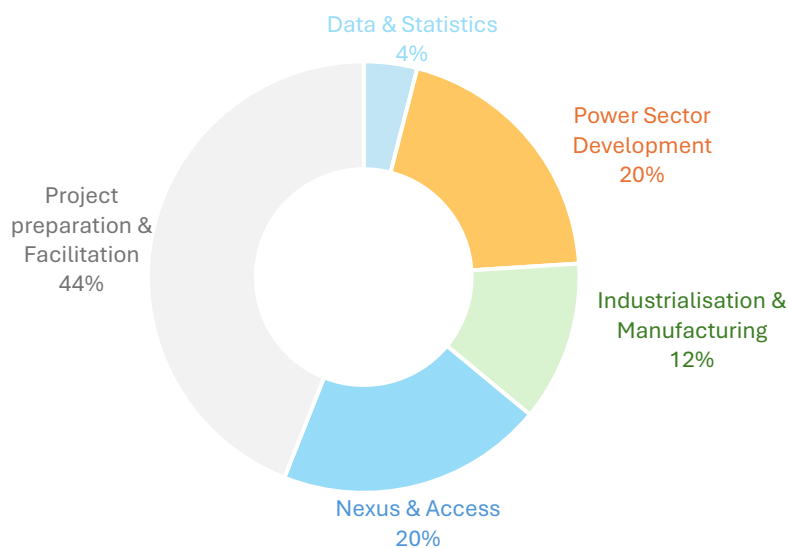


3. Country engagement

On **15 February 2024**, Rwanda engaged in a high-level consultation to establish strategic priorities for advancing its energy transition and green economy. Key discussions addressed the expansion of rural electrification, sustainable agriculture, and modern energy solutions. The resulting action plan covers renewable-powered agricultural systems, clean cooking initiatives, and economy-wide decarbonisation, positioning Rwanda as a leader in sustainable energy-driven development.

Number of actions: 25

Distribution of actions by thematic area



4. Investment prospects

Rwanda offers a strong investment opportunity with its rapidly growing renewable energy sector, aiming for 100% electrification by 2024 and 60% renewables by 2030. The government is expanding **solar, hydro, and off-grid solutions**, including **68 MW of solar mini-grids** and **clean cooking access for 500 000 households**. Grid modernisation includes **600 km of new transmission lines**, while **PPPs, tax incentives, and concessional financing** attract private investment. Rwanda also aims for **20% of buses, 30% of motorcycles, and 8% of cars to be electric by 2030**. As a member of the **East African Power Pool (EAPP)**, Rwanda is emerging as a regional energy hub with strong policy support and investment opportunities.