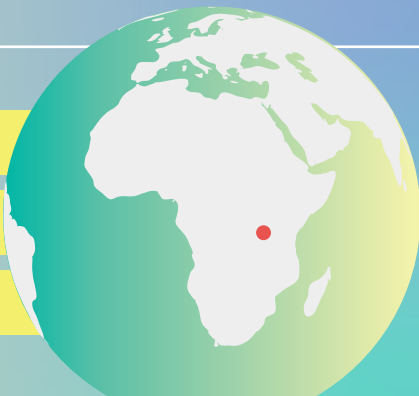


Energy Sub-Saharan Africa Programme in Rwanda

Economic potential with **8.2%** real GDP growth in 2022

Significant **progress** on **electrification**

Important **mining** industry



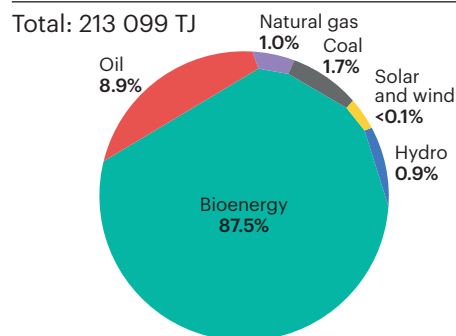
Rwanda's total energy supply is dominated by **bioenergy**, accounting for almost 90% of total energy supply. The remainder mostly consists of oil. Oil has historically been imported and is predominantly used in the transport sector. **Rwanda's electricity supply** is generated predominantly using **hydro**, but the **extraction of methane gas** from Lake Kivu has also significantly contributed to electricity generation. Electricity accounts for 2% of total final consumption. **Peat** is also another important source used in **thermal power plants**.

KEY POLICIES

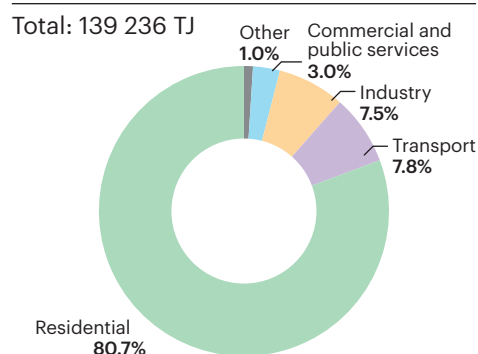
- **Vision 2050** (2015) aims for Rwanda to become an upper-middle income country by 2035 and a high-income country by 2050. It targets 60% renewable energy in the generation mix, universal electricity access, and a 20-fold increase in per capita consumption by 2035. The **National Strategy for Transformation (NST1)** (2017-2024) operationalises this vision, establishing the energy sector and scaling up electricity generation as key priorities. This policy also calls for 100% electricity access by 2024 and a halving of the households dependent on firewood for cooking from around 80% to 42%. Rwanda has committed to net zero CO₂ emissions by 2050, although this goal is not yet reflected in the Nationally Determined Contribution.
- **Rwanda Energy Policy** (2015) emphasises private sector involvement in the energy sector and promotes innovative financial mechanisms to benefit the most vulnerable populations. This policy also calls for enhancing access to sustainable, modern energy services through grid expansion and off-grid solutions. The **Rural Electrification Strategy** (2016) aims to improve rural electricity access and affordability through programmes which provide basic solar systems to all, increase private sector participation, scale up mini-grids and reduce end-user costs.
- Rwanda's **statistical activities** are governed by **Law N°45/2013/OL**, which mandates the use of statistical data and indicators for planning and strategy evaluation.

ENERGY MIX

Total energy supply, 2022



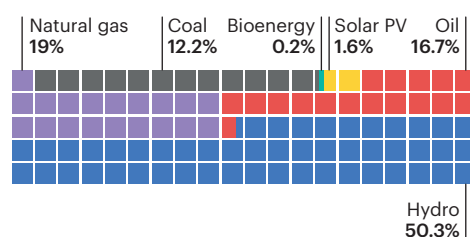
Total final consumption, 2022



ELECTRICITY MIX

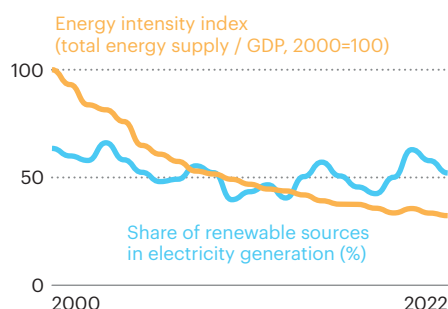
Electricity generation by source, 2022

Total: 1 102 GWh



KEY DATA

Data refer to year 2022 ▲▼ indicate the evolution of the indicator compared to 2021



Population ▲

13.8 million



CO₂ emissions per capita ▲

0.11 tCO₂ per capita



Energy intensity ▲

16 452 MJ per thousand 2015 USD



Gross Domestic Product ▲

13.0 billion USD (2015 prices and ex rates)



Net imports ▲

22.6 PJ



Share of renewables in electricity generation ▼

52.1 %



ACCESS TO CLEAN COOKING AND ELECTRICITY

13 million

people rely on **traditional biomass** for cooking



8%

of population has access to **clean cooking**



61%

of population has access to **electricity**



Rwanda has significantly **expanded electricity access** in the last decade. The access rate has increased six-fold since 2010, placing the country in the middle third of countries in sub-Saharan Africa, though a discrepancy persists between urban and rural areas. **Expanding the grid** is the strategic priority for scaling up access, with the country aiming for 70% grid connectivity by 2024.

Rwanda ranks in the middle third of sub-Saharan countries for access to clean cooking. **LPG** is the priority fuel for urban areas, but **biogas and improved biomass cookstoves** are also promoted. Methane reserves at Lake Kivu will be used to produce cooking gas.

Electricity access breakdown

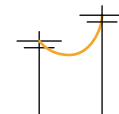
97%

of the population in **urban areas** has access to electricity



53%

of the population in **rural areas** has access to electricity



5 million

people are **without access to electricity**



TRACKING SECURE ENERGY TRANSITION

- Rwanda **relies heavily on hydropower and natural gas for electricity generation**. The country is aiming to enhance its energy security through the **KivuWatt methane gas project**, which will also **mitigate environmental risks** associated with methane in Lake Kivu. Rwanda is diversifying its renewable assets with **East Africa's first utility-scale solar plant**, which should also strengthen energy security amidst changing rainfall patterns which could impact hydropower variability.
- Rwanda is part of the Eastern Africa Power Pool, enabling electricity imports from neighbouring countries to meet demand shortfalls. The **country's grid reliability exceeds the average for the region** and has been improving in recent years.
- Rwanda currently imports the majority of petroleum products, but **exploration is underway for domestic oil reserves**. All natural gas demand is met via domestic reserves.
- As a major tantalum extractor and home to Africa's only active tin smelter, **minerals are an important part of Rwanda's economy**. The recent Memorandum of Understanding with the European Union on Sustainable Raw Materials Value Chains highlights that minerals are increasingly a priority area.

Rwanda imports and exports (energy security)

TJ	Exports	Imports
Oil products	-5 272	26 424
Electricity	-33 115	
Coal		1 320
Total	-5 305	27 859

-- Net trade

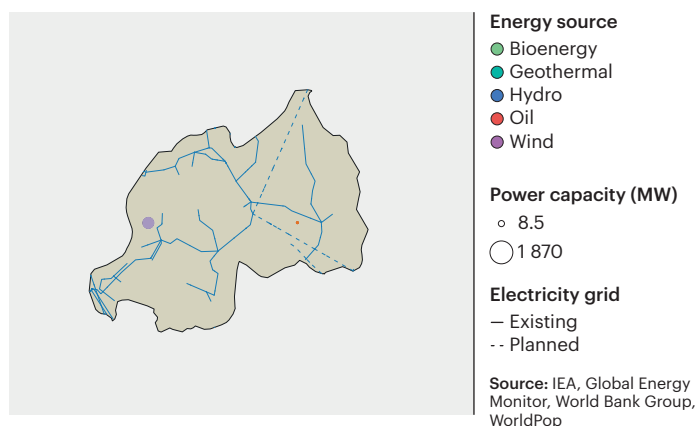
Note: Positive net value indicates that the country is dependent on imports of the energy source. Negative net value indicates that the country is a net exporter of the energy source.

Nationally determined contribution targets for energy

Base year (2015)	Unconditional (2030)	Conditional (2030)
1.7 Mt CO ₂ -eq	4.0 Mt CO ₂ -eq	3.3 Mt CO ₂ -eq

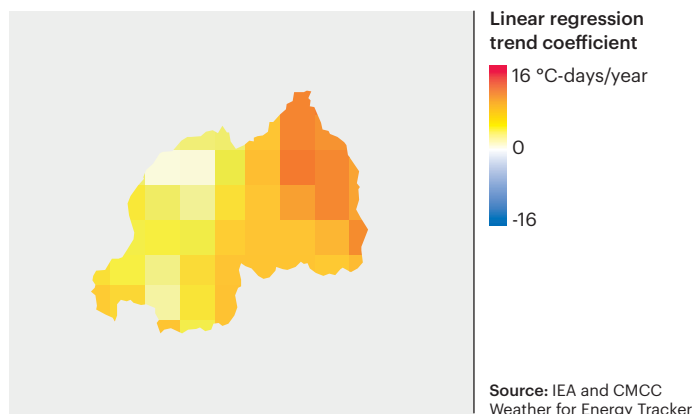
Power infrastructure map

The map below shows the types and capacities of power plants in the country as well as the electricity grid.



Weather trend map

The map below shows the annual trend of cooling degree days (indicator for space cooling needs) at grid level for 1979-2023.



These maps are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

