

KENYA

Kenya has the highest renewable energy (RE) installed capacity within ESECA target countries, as well as the most diversified energy mix. The country has a good context for smart grids development, with public and private digitalization initiatives.



NATIONAL CONTEXT

Ease of doing business index		Global competitiveness index <i>(World rank)</i>	Population	53,771,300 inhabitants
World rank 56th	Sub-Saharan rank 3rd		Human Development Index	0.601
		95th	GDP <i>(annualized average rate growth between 2010 and 2020)</i>	8.3%

ELECTRIFICATION RATE



91%

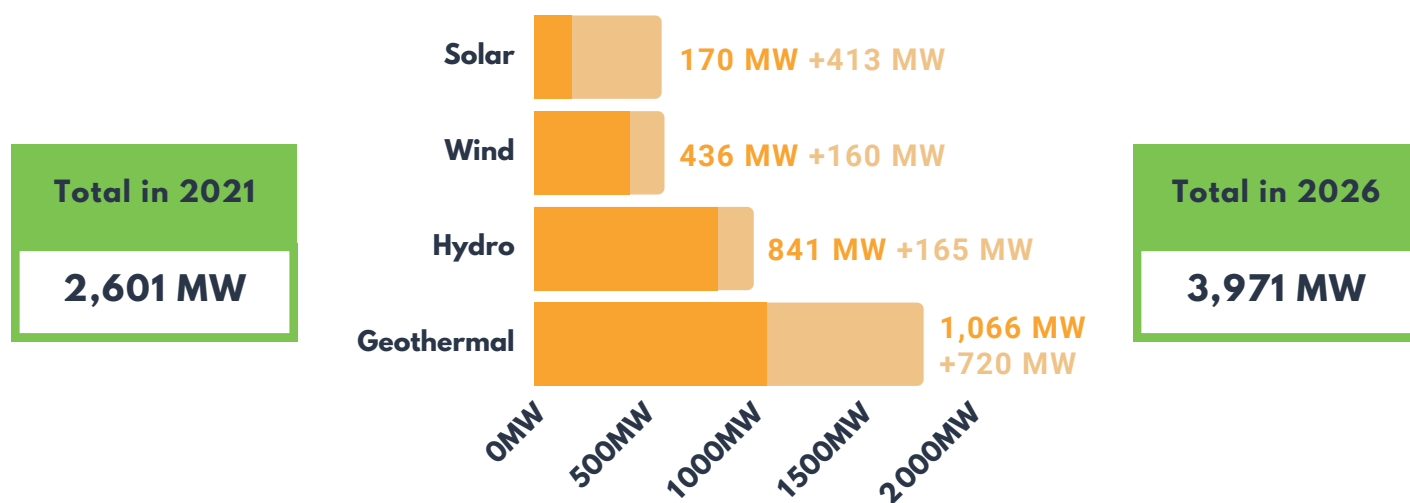


62%



70%

RENEWABLE ENERGY INSTALLED CAPACITY AND PROJECTIONS 2026



REGULATORY FRAMEWORK

- The energy sector is mainly structured around the Ministry of Energy and dominated by state-owned companies
- The **Kenya National Electrification Strategy** (2018) is the most relevant current document for the country's energy sector and market incentives in RE have been recently included

Data gathered with the support of Minsait. Full references available in the published report - June 2022

OPPORTUNITIES

Mini-Grids & Off-grids



Public initiatives as well as private companies are currently launching mini grids projects in Kenya, scattered throughout the country, with **more than 150 new solar powered mini-grids** expected to be developed in the medium term.



Smart Grids

Kenya presents a good context for the development of smart grids, encouraging both public institutions and private companies' initiatives for **grid digitalization**. Automation and digital control systems are the most interesting technologies.

Energy Storage

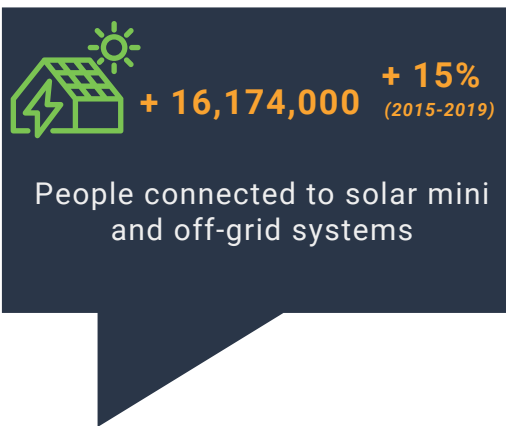


Within sub-Saharan Africa, Kenya has one of the **most developed Battery Energy Storage Systems markets**, and it is expected to be highly supported in the next decade.



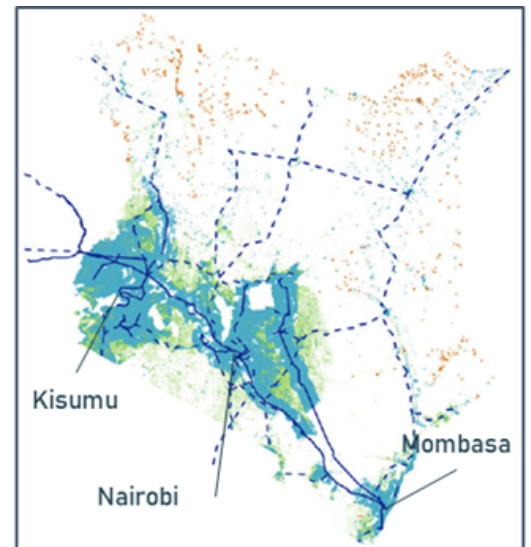
Electrical Equipment

Kenya is the country within the 5 analysed with the highest amount – in USD - of electrical equipment imports due to their **grid modernization and development plans**.



- On-grid
- Mini-grids
- Off-grid systems
- Existing transmission lines (>69kV)
- Planned lines

Kenya planned electricity connections by 2030



RESEARCH & DEVELOPMENT

- ▶ The number of R&D centres active in renewable energies is much higher in Kenya than in other African countries

KEY STAKEHOLDERS

- ▶ The most important stakeholders in renewable energies are in the public sector
- ▶ Universities and RE associations are numerous and active in RE, with **continuous collaboration with R&D private centres**

CONTACT

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RWANDA

Rwanda stands out as the country with the second position in the Ease of Doing Business Index in sub-Saharan Africa, with a clear tendency to encourage private investment, especially targeting rural electrification projects.



NATIONAL CONTEXT

Ease of doing business index		Global competitiveness index <i>(World rank)</i>	Population	12,952,209 inhabitants
World rank 38th	Sub-Saharan rank 2nd		Human Development Index	0.543
		100st	GDP <i>(annualized average rate growth between 2010 and 2020)</i>	5.4%

ELECTRIFICATION RATE



93%

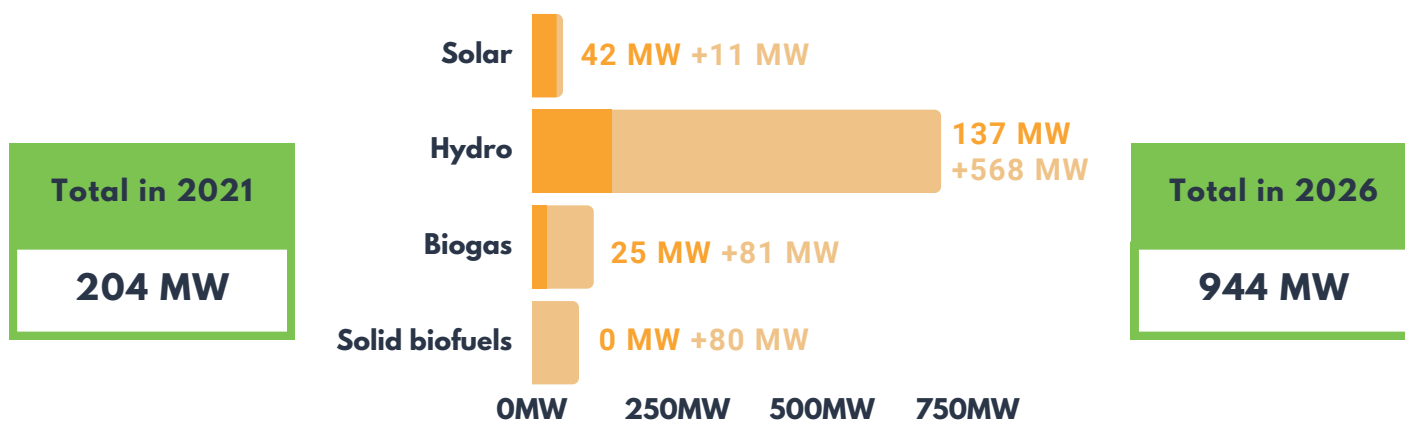


26%



46%

RENEWABLE ENERGY INSTALLED CAPACITY AND PROJECTIONS 2026



REGULATORY FRAMEWORK

- The National Energy Policy of 2015 has a clear tendency to encourage **private investment**
- Most of the existing funding programs in the country are aimed at financing **rural electrification projects** through off-grid systems

Data gathered with the support of Minsait. Full references available in the published report - June 2022

OPPORTUNITIES

Mini-Grids & Off-grids



Due to Rwanda's high hydropower resource potential and geographical characteristics, **small and medium hydro power plants** will be highly developed in the coming years.



Smart Grids

Rwanda is facing significant challenges for the implementation of smart grids, yet there are **some ongoing projects**. Smart grids development opportunities are linked to off grid solar home systems, and especially to incident management solutions.

Energy Storage



In the last 5 years, there is a growing activity related to energy storage solutions in Rwanda, **driven mainly by foreign private companies**.



Electrical Equipment

Rwanda's electrical equipment market is still very low. However, the Rwandan Ministry of Infrastructure has set out **several initiatives for investors** interested in the energy sector, such as free taxes on electrical equipment during energy projects development.

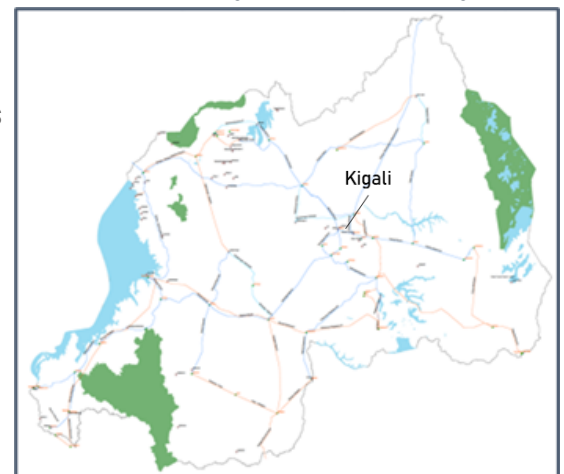


+ 2,513,000 **+ 44%**
(2015-2019)

People connected to solar mini and off-grid systems



Rwanda planned electricity connections by 2030



RESEARCH & DEVELOPMENT

- ▶ The African Centre of Excellence in Energy for Sustainable Development is the only R&D centre exclusively dedicated to renewable energies
- ▶ **Smart grids** have been identified by the Government as one of the destinations for RE R&D due to their relevance

KEY STAKEHOLDERS

- ▶ High number of stakeholders in RE compared to the country size
- ▶ **IPPs are relevant stakeholders** and exploited, in 2021, around 51% of the country's total installed capacity

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This brochure is part of the ESECA project (Grant Agreement 101035882), which has received funding from the European Union's COSME Programme (2014-2020).



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