Rwanda

GDP: **\$7.5bn**

Five-year economic growth rate: 7%

Population: 11.8m

Total clean energy investments, 2006-2013: \$298.3m

Installed power capacity: 113.4MW

Renewable share: 54.7%

Total clean energy generation: 253.3GWh

Top energy authority: Ministry of Infrastructure

OVERALL RANKING

2014

23

OVERALL SCORE

2014

1.20

RANKING	SCORE
02	1.74
35	0.43
	4.00

PARAMETER	RANKING	SCORE
I. Enabling Framework	02	1.74
II. Clean Energy Investment & Climate Financing	35	0.43
III. Low-Carbon Business & Clean Energy Value Chains	25	1.86
IV. Greenhouse Gas Management Activities	42	0.67

SUMMARY

Rwanda placed 23rd in *Climatescope* 2014 with a score of 1.20. It was strongest on Enabling Framework Parameter I, taking second place globally, partly reflecting the fact that its 62MW of small hydro capacity comprises more than half the country's entire generating output. The remainder it derives from dieselfired power plants.

Strong economic growth over the last decade has drawn the government's attention to the power sector. It has very ambitious goals to install more capacity and connect more people to the grid. Under its five-year plan, the Economic Development

and Poverty Reduction Strategy 2, the government aims to increase power capacity to 563MW by 2017 from 113MW today, and to raise the electrification rate to 70% by July 2008, from 17% currently.

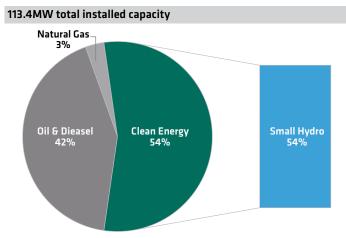
The Ministry of Infrastructure – the main energy policy-setting body – seeks to meet the generating target through a mix of geothermal, peat, methane gas, solar and hydropower. It has introduced a feed-in tariff for small hydro and is holding small-scale tenders for solar, while the Electricity Access Rollout Programme is seeking to extend the grid.

For further information, access www.global-climatescope.org/rwanda

PARAMETERS AT A GLANCE

Rwanda's power sector is vertically integrated under the stateowned Rwanda Energy Group (REG, formed in July 2014 after the Electricity, Water and Sanitation Authority was split into two companies), which owns around half of the generating assets. Scotland-based multinational power generator Aggreko provides much of the country's diesel capacity, which was introduced after droughts in 2004 led to a shortage of hydro generation.

INSTALLED POWER CAPACITY BY SOURCE, 2013 (%)



Source: Bloomberg New Energy Finance, Rwanda Energy, Water and Sanitation Authority, Rwanda Utilities Regulatory Authority

Note: Some values cannot be graphically represented due to scale, please see source data for the complete numbers

Rwanda achieved the second-highest score on Enabling Framework Parameter I reflecting the high level of clean energy penetration, as well as its effective energy access policies and high power prices. Not only is retail electricity relatively expensive at \$0.24/kWh, the cost of imported diesel for power generation and kerosene for lighting is also high, which improves the economics of both on- and off-grid clean energy sources.

KEY POLICIES

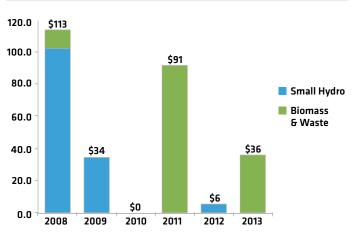
Energy Target	Increase total capacity to 563MW and electrification to 70% by mid-2018.
Feed-in Tariff	Specifically for hydro projects smaller than 10MW, fixed for three years then subject to review.
Auction	Held by the Energy Water and Sanitation Authority specifically for solar capacity of 18.5MW in 2013.
Debt/Equity Incentives	Grants for household biogas digesters and subsidized connections to the grid.
Tax Incentives	There are tax reductions and import duty exemptions for a range of energy supply equipment, and also accelerated depreciation for projects.

Source: Bloomberg New Energy Finance Policy Library

In contrast, the country ranked 35th on Clean Energy Investment Parameter II. The \$300m of clean energy investment recorded since 2006 was split between biomass and small hydro. Alongside the feed-in tariff for small hydro, the government has begun funding geothermal test drilling and awarding tenders for solar, moves that could soon alter the complection of the clean energy landscape. Gigawatt Global's 8.5MW solar project was commissioned in September 2014 and a further 10MW of tendered capacity is under consideration.

ANNUAL INVESTMENT IN CLEAN ENERGY, 2008-2013 (\$m)

\$298.3m total cumulative investment



Source: Bloomberg New Energy Finance

Notes: Total investment includes: Asset Finance, Corporate Finance and Venture Capital /

This new-found diversity helped Rwanda to 25th place on Value Chains Parameter III. Alongside small hydro, there are project developers and engineering firms active in solar, biomass, biofuel and, to a lesser extent, geothermal.

Rwanda ranked 42nd on Greenhouse Gas Management Activities Parameter IV, a reflection of the country's limited carbon offsetting activity and the absence of an emissions reduction policy; however, it did score on project risk, as none of its four registered CDM projects have failed so far or had to restart.