



OVERVIEW

ENERGY SECTOR

GOVERNMENTAL FRAMEWORK

RENEWABLE ENERGY POTENTIAL

ZIMBABWE

Energy Sector



Zimbabwe faces consistent power shortages as indicated by an estimated deficit of approximately 60%. The Zimbabwe Electricity Supply Authority's (ZESA) generation capacity was measured in February 2016 as producing at only 845 MW, against a projected national demand of 2,200 MW and an installed capacity of approximately 1,940 MW. The country is

importing power from South Africa, Mozambique, and the DRC, however recent announcements indicate substantial potential changes meant to strengthen the national energy mix through new hydro-, solar- and coal-based generation.

Electricity Demand and Electrification Rates

Approximately 40% of the country's electricity demand is driven by mining and other heavy industries. Peak demand has been recorded at 2,200 MW.

Electricity Consumption in 2014

Economic Sector	GWh
Industry	3,388
Transport	0
Residential	2,742
Commercial and Public Services	1,361
Agriculture / Forestry	687
Fishing	0
Other non-specified	60
Final Electricity Consumption	8,238

Access to electricity is estimated at 52% of the total population, comprising approximately 78% of the urban population and 40% of the rural population. Approximately 200,000 urban households and 1.2 million rural households do not have access to electricity. The Government of Zimbabwe maintains a target of achieving 85% electricity access by 2020.

Electricity Generation

Zimbabwe is heavily reliant on its coal and water resources to produce electricity. The bulk supply is produced at the Kariba Dam Hydroelectric Power Station (750 MW), at the Hwange Thermal Power Station (920 MW) and at three smaller coal-fired power stations, all of which are managed by the ZESA subsidiary, the Zimbabwe Power Company (ZPC).

Zimbabwe plunged into an unprecedented crisis causing the electricity supply to drop to less than half of the country's demand. The crisis was caused by declining water levels at the Kariba Dam as well as technical faults at the Hwange Power Station. Daily lake levels for 2015-2016 in the Kariba Reservoir were recently noted to be at their lowest biannual average in twenty years, according to Zambezi River Authority data. In February 2016, lake levels were at 477 meters above sea level, or just 11% of operating volume. Maintenance and repairs have led

to extensive load shedding causing regular power interruptions with durations of up to 18 hours. In order to improve the situation and meet the rising demand, the Zimbabwe Power Company announced expansion projects for the Hwange (+600 MW) and the Kariba Hydro Power Stations (+300 MW) in 2014.

No major new developments have been undertaken since the commissioning of the Hwange coal-fired power plant in 1988. Today, less than 50% of the country's installed capacity is available for power generation. A spate of tenders for Zimbabwe Power Company power projects awarded by the State Procurement Board in 2015 and 2016 – for the Munyati 100 MW solar plant, Insukamini 100 MW solar plant, Gwanda 100 MW solar plant, Mutare 120 MW Peaking Power Plant, Dema 200 MW diesel power plant, 300 MW Kariba South Extension, 600 MW Hwange 7 and 8 Extension, 30 MW Gairezi hydro, and repowering of Bulawayo (addition of 90 MW), Munyati (refurbishment from 23 MW to 100 MW), and Harare stations (increase to 120 MW) – have met with significant controversy.

Installed Generation Capacity (MW)

Power Station	Owner	Installed Capacity (MW)
Kariba Dam Hydroelectric Power Station	ZPC	750
Hwange Thermal Power Station	ZPC	920
Rusitu Hydro	Rusitu Power Corporation	0.75
Munyati (Coal)	ZPC	100
Bulawayo (Coal)	ZPC	90
Harare (Coal)	ZPC	80
Triangle (Bagasse)	Triangle Ltd	45
Hippo Valley Estates (Bagasse)	Hippo Valley Estates	33
Green Fuel (Bagasse)	Green Fuel	18
Border Timbers (Wood waste)	Border Timbers	0.5

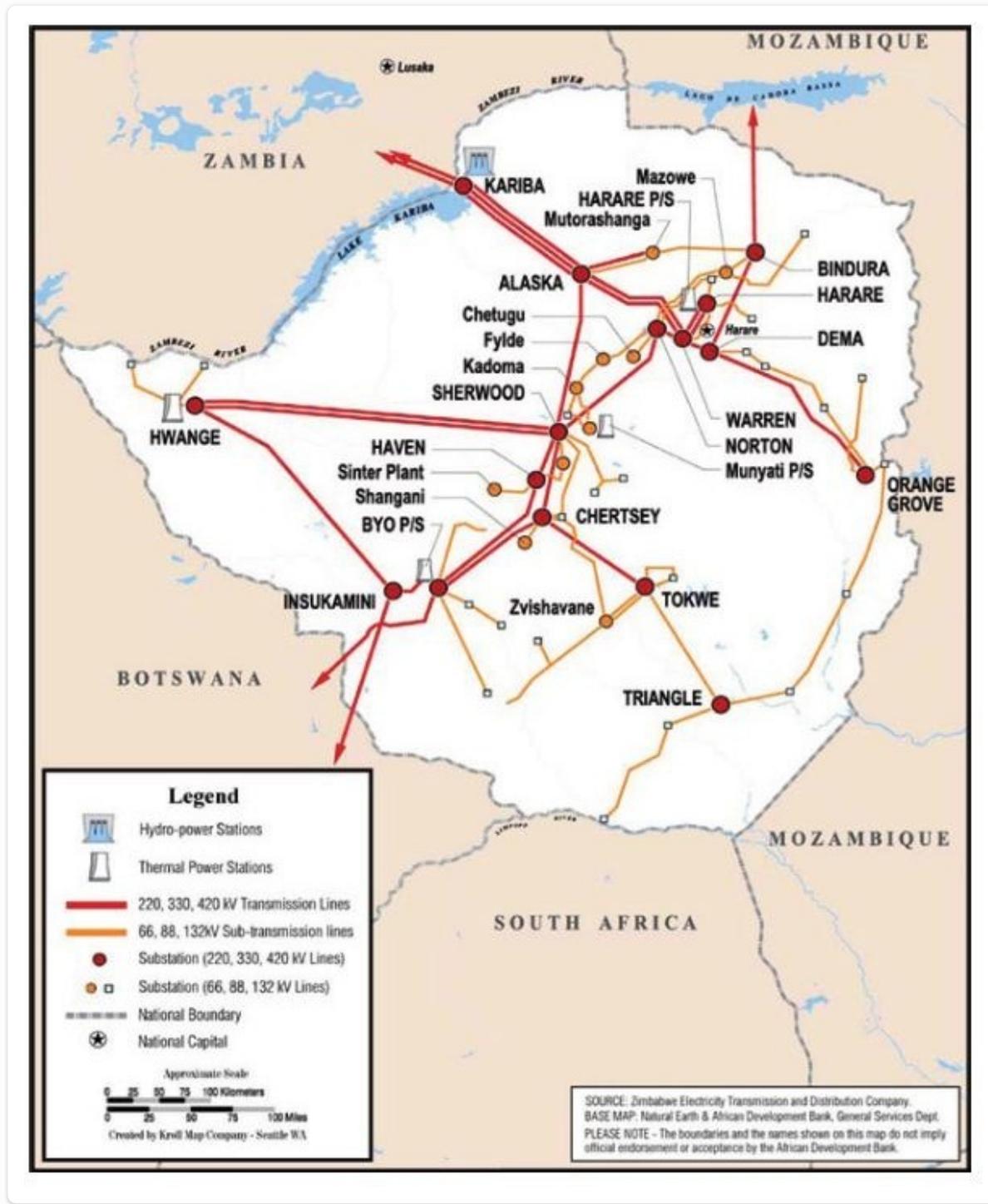
Source: [global-climatescope](https://www.global-climatescope.com/)

Transmission and Distribution

The Zimbabwe Electricity Transmission and Distribution Company (ZETDC) is responsible for the development, operation and maintenance of the transmission and distribution network. The transmission system consists of 420kV, 330kV, 220kV, 132kV, 88kV and 66kV lines and substations, with a total length of over 7,274 km. ZETDC intends to strengthen and extend the

transmission and sub-transmission networks until 2020 in order to contribute to the country's electrification rates.

Transmission and Distribution Network in Zimbabwe



Source: [African Development Bank](#)

The country has over 119,784 km of distribution lines serving approximately 600,000 customers. ZETDC has prepared short, medium and long-term master plan studies with an aim to achieve greater reliability in the distribution system and ensure that it is capable of meeting future requirements. The studies outline the need to ensure reliable power supply, with a particular focus on the growing main cities. With this in mind, ZETDC plans to strengthen existing distribution networks.

Electricity Tariffs

The power utility intended to raise the tariffs twice since 2013 in order to reflect the costs of power production. An initial request to increase the tariffs by 12% was reduced to 5%. However, the regulatory body, ZERA, rejected the proposal so that the tariffs could not be changed. A 2016 application by ZETDC to ZERA for a proposed tariff increase, from an average of USD 0.0986/kWh to USD 0.146/kWh was rejected, however is currently under review by the Ministry of Energy and Power Development.

Connection charges for residential customers

Connection Type	Cost
Single phase underground cable service High Density	\$135.00
Single phase overhead cable service High Density	\$95.00
Single phase underground cable service Low Density	\$195.00
Single phase overhead cable service Low Density	\$185.00
Three phase underground cable service Low Density	\$290.00
Three phase overhead cable service Low Density	\$315.00

Note: Electricity for domestic use exempted from VAT

Source: WB, 2016

Tariffs as of December 2014

	Net tariffs per kWh, USD, effective from September to December 2014	
Domestic – metered	1 – 50 kWh	51 – 300 kWh
Conventional meter	0.02	0.11
Prepayment meter standard	0.1	0.1
Prepayment meter stepped	0.02	0.11
Public lighting	Energy charge per kWh	Monthly charge per watt
Metered	0.11	–
Unmetered	–	0.03

	Fixed Amperage Charge, USD, effective from September to December				
Domestic – load limited	1.0 A	2.5 A	5.0 A	7.5 A	10.0 A
	\$4.64	\$7.08	\$11.14	\$15.21	\$19.28

Mining, industrial, commercial & pumping works, agricultural and institutions	Net tariffs per kWh
	On-peak energy
Low voltage	0.12
11 kV, 33 kV, secondary distribution	0.13

Institutions: Government, Municipal, Mission Schools, Hospitals and Clinics	Net tariffs per kWh
	On-peak energy
Low voltage	0.12
11 kV, 33 kV	0.13
Agricultural Customers	Net tariffs per kWh
	On-peak energy
Low voltage	0.12
11 kV	0.13
33 kV	0.13

Source: ZETDC

Off-Grid Electrification

ODI (2016) notes that while much of rural Zimbabwe has exposure to off-grid solar products and there are policy mentions for both off-grid solar and rural electrification, practical implementation of these policies is limited. Lack of a clear policy and regulatory framework has led to an off-grid market full of substandard product. Import tariffs have been removed for solar products however VAT (15%) still applies. Companies in the sector cite policy gaps, limited opportunities for access to affordable finance, and product quality concerns as major bottlenecks to growth in the off-grid sector. A number of mini-hydro mini-grids and solar powered irrigation facilities have been funded by both private developers and NGOs, while the Rural Electrification Agency has installed 372 PV-based mini grids of 0.9 kW each, totaling 334.5 kWp, at schools and clinics.



Key figures

Available statistics:

CAPITAL

Harare

OFFICIAL LANGUAGE

English

POPULATION (2017 EST.)

16,530,000

POPULATION GROWTH (2016 EST.), %

1.41

MEDIAN AGE (2018 EST.), YEARS

19.3

URBANIZATION RATE (2015 - 2018), % P.A.

1.32

URBAN POPULATION (2018), % OF TOTAL

32.20

RURAL POPULATION (2018), % OF TOTAL

67.8POPULATION DENSITY (2018), PER KM²**37.33**

HDI (2018), RANK OF 188

156

NATIONAL CURRENCY

US Dollar

EXCHANGE RATE (JULY 2019), 1 USD

361

GDP (2018), USD MILLION CURRENT

31,001

GDP GROWTH (2018), %

6.2

GDP ANNUAL GROWTH RATE FORECAST (2020), %

2.80

GNI PER CAPITA (2018), CURRENT INT'L USD

3,010

AVG. INFLATION (2009 – 2017), %

0.87

INFLATION RATE FORECAST (2020), %

32

FOREIGN DIRECT INVESTMENT, NET INFLOWS (2017),
BOP CURRENT USD BILLIONS

0.25

NET OFFICIAL DEVELOPMENT ASSISTANCE (2017),
CURRENT USD MILLIONS

725.83

BUDGET DEFICIT (2016), % OF GDP

11.1

EASE OF DOING BUSINESS (2016), RANK OF 190

155

TI CORRUPTION INDEX (2016), RANK OF 168

160

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