

Solar Energy Investments in Zimbabwe – What is working and what is not

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Overview

Solar photovoltaic (PV) costs have fallen significantly globally, with utility-scale solar reaching approximately **US\$0.043/kWh in 2024**. However, in Zimbabwe, the main constraint is **not technology but financial structuring and risk perception**. Institutions such as hospitals, mines, and factories invest heavily in diesel power but are often hesitant to adopt solar due to **high upfront capital costs, perceived reliability concerns, and financing constraints**.

This concept note summarizes current progress in solar deployment, identifies the key barriers to adoption, and highlights why some energy solutions succeed while others lag behind.

What Is Working

1. Declining Solar Economics

Solar PV has become cost-competitive **with traditional backup power**. Typical Zimbabwe solar projects achieve **LCOE between US\$0.08 – 0.15/kWh**, significantly cheaper than diesel

generation, which can reach **US\$0.25 – 0.40/kWh**.

This cost advantage creates strong long-term savings for **commercial and industrial (C&I) energy users**.

2. Emerging Investment Structures

Several financing models are beginning to unlock solar deployment:

- **Power Purchase Agreements (PPAs)**
- **Hybrid debt/equity financing**, such as renewable energy funds
- **Government-supported IPP frameworks**

Examples such as the **Mater Dei Hospital 750 kWp solar system funded through Old Mutual's Renewable Energy Fund** demonstrate how structured financing can enable large-scale distributed solar installations.

3. Policy Progress

Recent regulatory developments, including **net metering reforms and IPP frameworks**, have begun improving the business environment for solar developers and investors.

Large projects such as **Vungu Solar (30 MW)** and the proposed **Kariba Floating Solar** show growing interest in utility-scale solar investment.

What Is Not Working

1. Financing Constraints for C&I Clients

Most commercial and industrial customers prefer **diesel generators** despite their high operating cost. The key reason is **capital structure**, not economics.

Solar systems require **large upfront capital expenditure**, while diesel generators require relatively small initial investment and allow operating costs to be spread over time through fuel purchases.

2. Technical Support and Operational Confidence

Another important barrier is **perceived reliability and technical support**.

Many C&I clients are more comfortable with diesel generators because:

- Diesel generators have **long-established service ecosystems**.
- Faults and breakdowns can be **diagnosed and repaired quickly by local technicians**.
- Spare parts and operational knowledge are widely available.

Historically, solar PV systems, especially those involving **complex control systems**, have lacked comparable local technical support capacity. Only recently has **deeper technical support, diagnostics, and system monitoring expertise** become more widely available in Zimbabwe.

This difference in **maintenance confidence** strongly influences technology choice.

3. Liquidity and Foreign Currency Constraints

Zimbabwean companies often operate under **tight liquidity conditions and foreign currency shortages**. Capital-intensive investments like solar are therefore frequently postponed in favour of operational expenditures such as fuel purchases.

Why the Current Situation Exists

The slow adoption of solar is primarily the result of **three structural factors**:

1. **Financial structuring gap** – Many institutions lack access to financing mechanisms that convert solar from a capital expense into an operational expense
2. **Technical ecosystem maturity** – The solar service and diagnostics ecosystem is still developing compared diesel generator industry.
3. **Risk perception** – Organisations prioritise operational certainty, even when long-term economics favour solar.

Key Opportunity

The major investment opportunity lies in **financial engineering rather than technology innovation**. By structuring solar projects through **PPAs, energy-as-a-service models, or blended finance**, developers can eliminate the capital barrier and unlock great demand from the C&I sector.

In this model, **distributed solar becomes an infrastructure asset class**, generating predictable cash flows while reducing energy costs for Zimbabwean businesses.