UNLOCKING THE ZAMBEZI

Hydropower Development along the Zambezi River Cascade.

Zimbabwe-Zambia Energy Projects Summit.
Livingstone | 27 November 2025.

Water! Today, Tomorrow

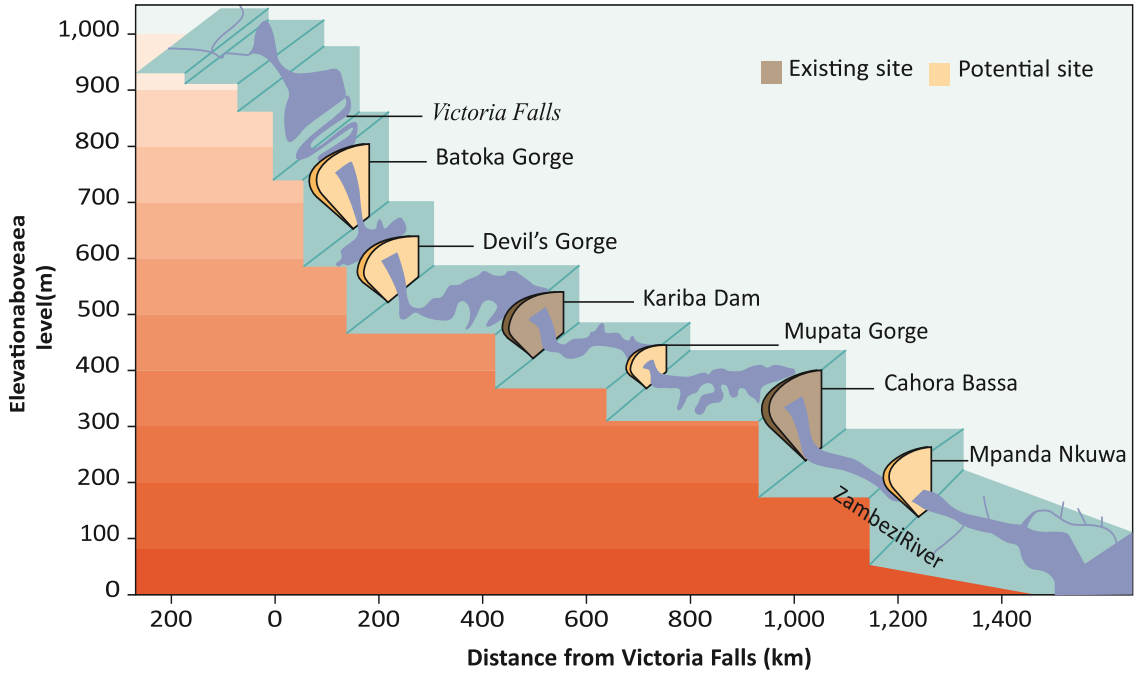
Presentation Outline

1. Overview of the Zambezi River Authority
2. Demand and Hydro Power Potential on the Zambezi River Common to the two States
3. Batoka Gorge Hydro Electric Scheme (BGHES) Project Overview
4. Devils Gorge Hydro Electric Scheme (DGHES) Project Overview
5. Lake Kariba Floating Solar Photovoltaic (FSPV) Project Overview
6. The Investment Ask

Overview of ZRA

- Bi-national organization established on 1 October 1987 by the governments of Zambia and Zimbabwe.
- Mandate: Operation and maintenance of the Kariba Dam, and development of new hydropower projects on the shared section of the Zambezi River.
- Core functions:
  - River basin management and Dam safety.
  - Power Infrastructure development.
  - Environmental stewardship and regional cooperation.

The Zambezi River Cascade Vision

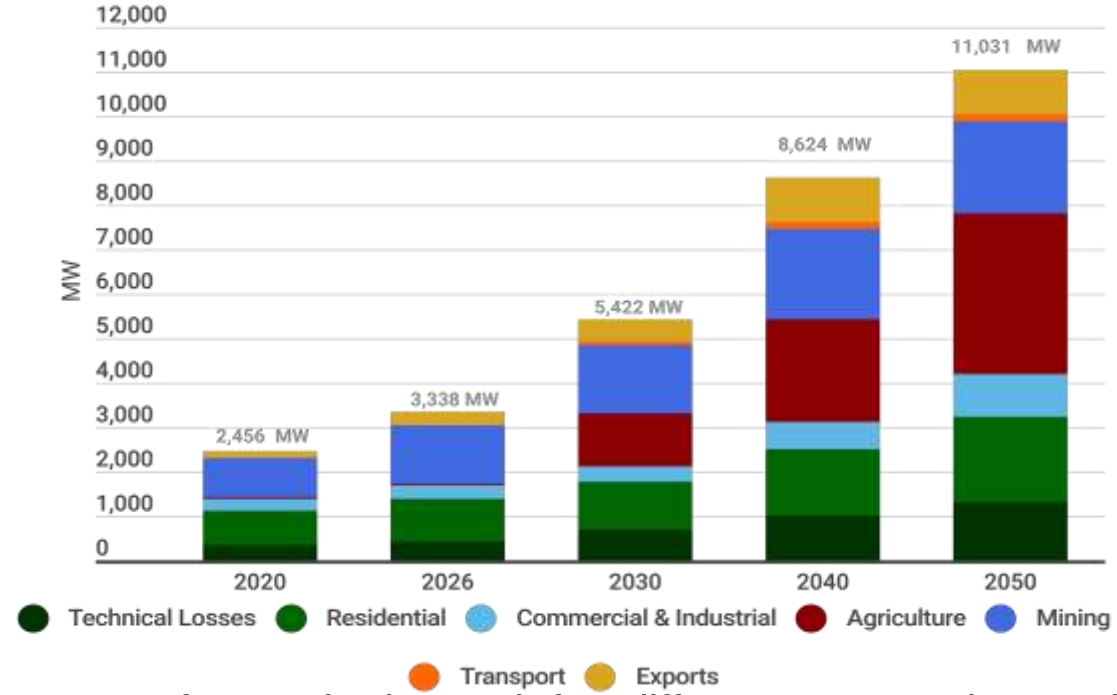


- 1904-1972 Geological investigations for hydropower scheme sites downstream of Victoria Falls.
- Over 6,730MW of Hydropower energy production sites.
- Only 2,130MW so far has been developed, and 4,600 remain untapped.

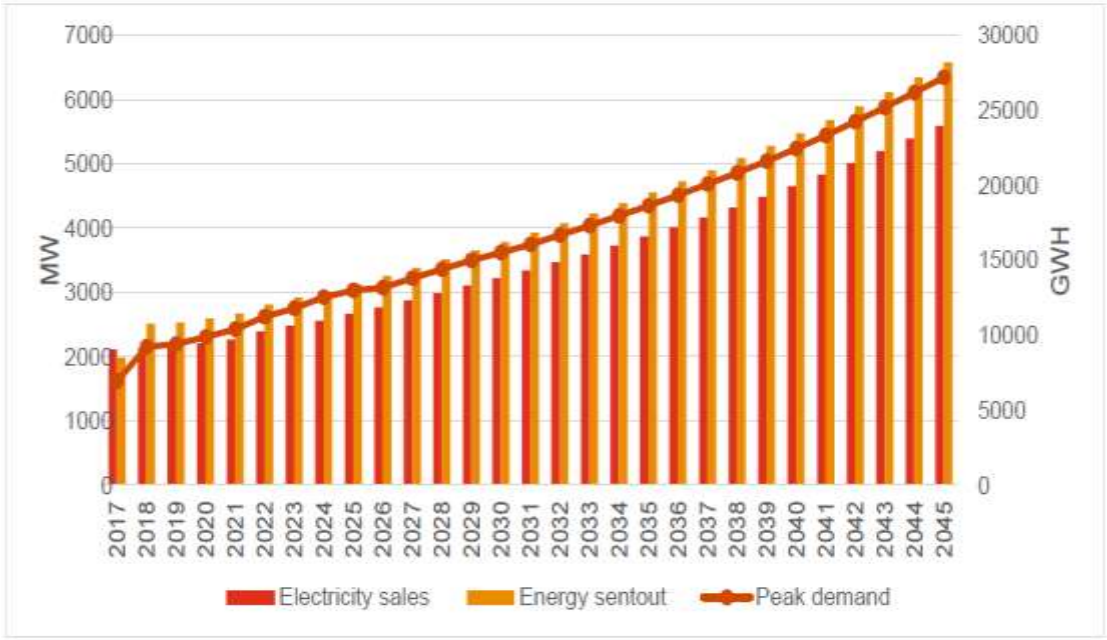
- Additional upstream reservoirs are a climate-resilient strategy for the two Countries/Region – Conjunctive operation.
- Integration of other renewable energy sources, such as floating solar and green Hydrogen.
- The **AGREED** position is to start with the Development of the Batoka Gorge Hydro-Electric Scheme, followed by Devils Gorge HES then Mupata Gorge HES.

Peak Demand for Zambia and Zimbabwe

- Current Power Deficit – Zambia: 900MW and Zimbabwe: 600MW
- Zambia**:** Peak demand projected to grow from 2,456 MW (2020) to 11,031 MW (2050) – *Integrated Resource Plan (IRP)*.
- Zimbabwe**:** Peak demand projected to grow from 2,153 MW (2018) to 6,344 MW (2045) – *2021 Power Supply and Demand Feasibility Report*.



Forecast for peak demand for different sectors in Zambia (2020 - 2050)



Forecast for peak demand, energy sales and energy sent out for Zimbabwe (2018 - 2045)

BGHES

BGHES Project Overview

We Are The Upgrade to Southern Africa's Power Grid.

- The Batoka Gorge is a strategic undertaking of up to 2,400 MW baseload solution positioned to decongest the SAPP's overloaded central transmission corridor.
- Cited 47km downstream of Victoria Falls straddling the between Zambia and Zimbabwe.

PROJECT SPONSOR: Zambezi River Authority (Jointly owned by the governm of Zambia & Zimbabwe)

KEY PROJECT PARTNERS:

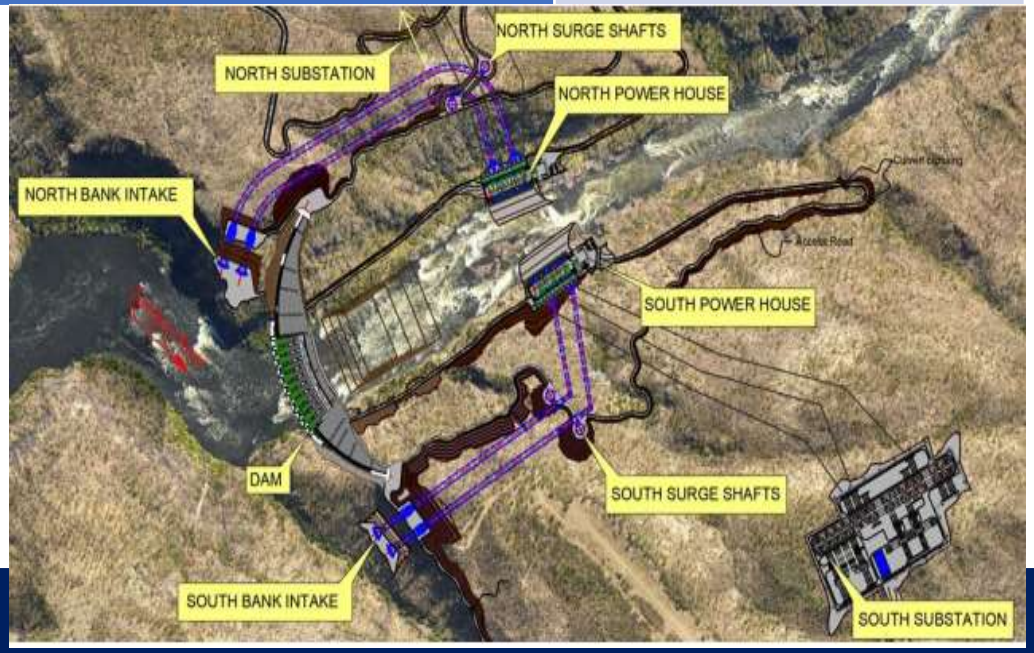
- **Role:** A critical enabler for regional power flows, providing the foundational capacity that makes projects like ZIZABONA and ZTK fully operational
- **Certainty:** All major studies completed in 2022. Updates – by 2026.
- The Project is the master key that unlocks SAPP's true potential.
- By providing a new, high-capacity injection point and a direct interconnector between Zambia and Zimbabwe, the Project doesn't just add power but unlocks the **entire region's trading potential.**

Overview of Key Analyses - Financial

Financial Aspects

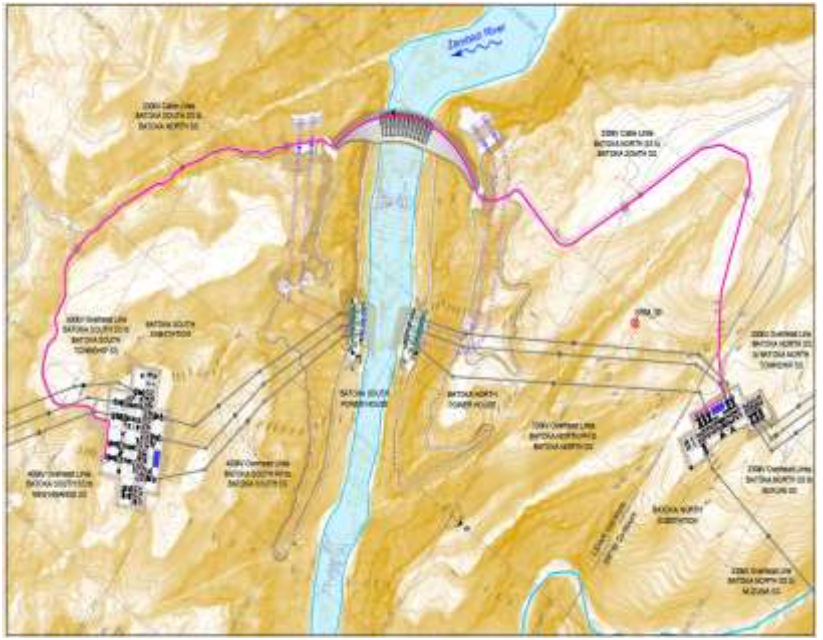
- ☑ **Projected Equity IRR: 13-17%**
- ☑ **Capital Structure:** 70% Senior Debt (DFI-led), 30% Equity.
- ☑ **Robust Revenue Model:** Diversified offtake strategy to secure creditworthy buyers (mining corporates, regional utilities, national offtakers) to mitigate single-counterparty risk.
- ☑ **Our goal is to create a bankable, equitable, and sustainable partnership that balances investor returns with public interest. The final structure will be determined through a collaborative and competitive process**

Infrastructure	Financing Amount (USD million)
Dam (including spillway and intakes)	2,139
North Bank Power Plant	732
South Bank Power Plant	732
Additional Transmission Lines	651
Total	**4,254**



Overview of Key Analyses – Technical, Regulatory and Environmental Compliance

- **Prime Location:** 47km downstream of Victoria Falls with very low environmental footprint.
- **Massive Scale:** Upto 2,400 MW capacity | ~10,000 GWh/year generation.
- **Design – Currently being Optimised:**
  - Over 100 years of flow data utilised to inform design
  - 175m High RCC Gravity Arch Dam.
  - Two Independent Power Plants (North & South Bank).
  - 12 x 200 MW Francis Turbines.



- **Legal and Regulatory Compliance:**

✓ Title deeds for the power stations & project townships secured.

✓ ESIA approved by Environmental Regulators in December 2022.

Advanced Development Stage: Feasibility Studies Updates ongoing | ESIA alignment to UNESCO Standards | Strong Government & Multilateral Backing.

Mosi-oa-Tunya Declaration on Sustainable Development

- **Adopted:** World Heritage and Sustainable Development in Africa workshop, Livingstone, Zambia, in April 2025.
- **Endorsed:** 47th Session of the World Heritage Committee Meeting, July 2025, Paris.
- Main Principles:
  - Heritage as a driver for sustainable, inclusive growth and peace building;
  - Balance conservation with development agendas.

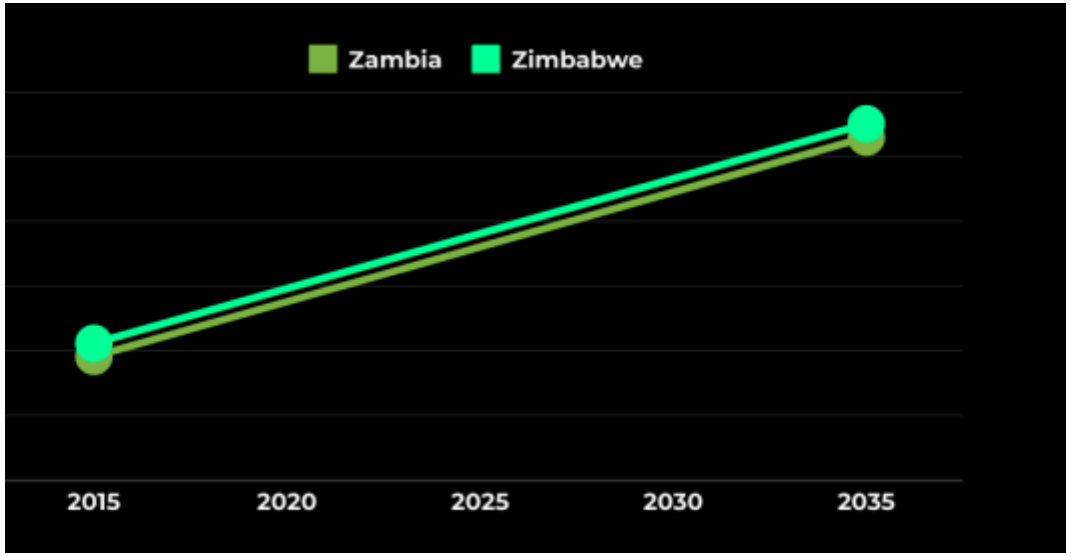
Mosi-oa-Tunya Declaration

Implications for the Batoka Gorge Hydro-Electric Scheme

- Anchors the project within a high -level UNESCO-endorsed sustainability commitment
- Bolsters environmental, cultural and social credibility, reinforcing project bankability
- Provides a strong platform for cross-border and regional cooperation, aligning with broader objectives for the Zambezi River Basin Development

Overview of Key Analyses - Market

- **Regional Gateway:** The only project with a **built-in** interconnector, linking the massive SAPP market.
- **Regional Export Potential:** Project transmission lines are key to regional integration making the project have access to the high-growth EAPP and CAPP through other planned Interconnectors.
- **Explosive Market Growth:** National demand set to triple, creating a 9,000+ MW new market by 2050.



ZAMBIA

3,705MW

Hydro and diesel generation facilities

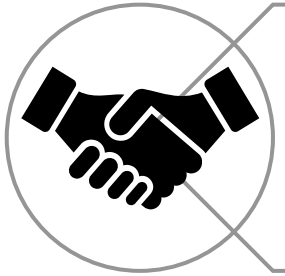
ZIMBABWE

2,771MW

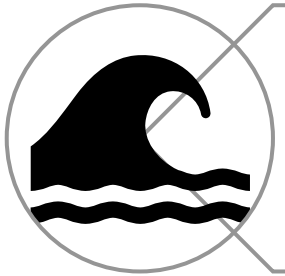
Primarily coal-fired power plants.

Socio – economic Benefits

Jobs: ≈ 26,941 life-cycle opportunities.



CSR: People-centered resettlement and social programs



Livelihoods: Water-based activities prioritized for affected persons.

Why Invest in Batoka

- ☑ Low environmental footprint.
- ☑ Strong political support for the development of the project at the bilateral level.
- ☑ Strong alignment on policy priorities/development objectives of sponsoring States.
- ☑ Strong Regional and Continental Support. Under NEPAD, Batoka is a PIDA Priority Project. Alignment with other projects such as ZIZABONA, ZTK projects, etc.
- ☑ The BGHES transmission lines are key for regional integration and for giving the project access to regional power markets in the Southern African Power Pool (SAPP), Eastern Africa Power Pool (EAPP), and Central Africa Power Pool (CAPP).

DGHES

DGHES Project Overview

- Initial recommendation of a 181 m high concrete Arch Dam.
- Pre-feasibility studies to select an optimal project site.
- Potential Capacity – 1200 MW.
- Focus: Complement Batoka and improve energy security in SAPP.

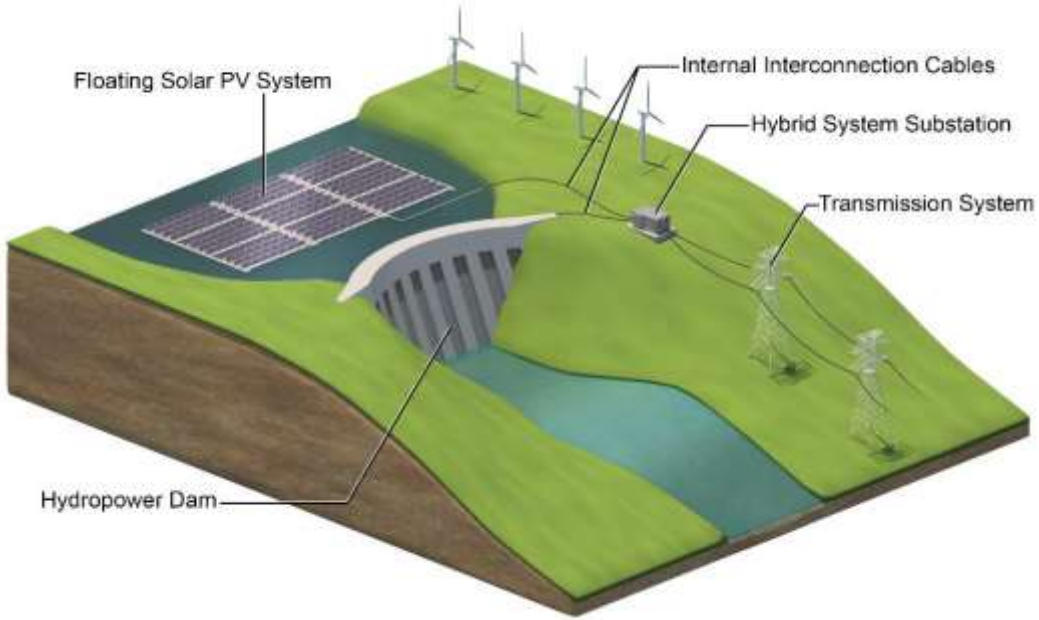
DGHES Project Milestones

- Pre-Feasibility Consultant Engaged (November 2023)
- Options Assessment Finalized (April 2024)
- ESIA Screening Report Approved (October 2025)
- Procurement for Bathymetric Survey and Geological Investigations Contractor Underway

LAKE KARIBA FSPV

Lake Kariba FSPV Overview

- Floating Photovoltaic (FPV) system on Lake Kariba, which spans 5,400 km².
- Integrates with existing Hydroelectric Plants for enhanced energy efficiency.
- Targets 3-10% of the reservoir for solar energy generation.
- AfDB through SEFA fund to provide a grant of $500,000 for feasibility studies.
- Energy Capacity: Initial production of 100-400 MWp, with potential scaling to 1,000MWp to 2000MWp.



Hybridization: FSPV + Hydropower

- Complementary energy production (solar during day, hydro balancing fluctuations).
- Efficient use of existing hydropower infrastructure and grid connectivity.
- Stabilization of energy output by reducing intermittency challenges.
- Reduced reliance on fossil fuels and enhanced sustainability.
- Improved climate resilience for the Kariba power system.

Lake Kariba Hybridized FPV Benefits to Zim , Zam & SAPP

Economic Benefits

Social benefits

Environmental Benefits

Energy & Financial Efficiency

Current Status

- ☑ AfDB has completed bid evaluation and selected a JV of NorConsult–Dornier Suntrace–Les Kugel for the feasibility study.
- ☑ Contract negotiations held on 26 Sept 2025; Kickoff meeting -Jan 2026
- ☑ Parallel FPV interests progressing under Zambia (LTI, RSK–Nova) and Zimbabwe (Sunspire), in line with COM 2023 resolution.
- ☑ AUC/EU prefeasibility (100 MWp) completed and has Green Light the Potential; findings to be integrated once the AfDB-led study concludes.

The Investment Ask

THANK YOU!

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