

Zimbabwe: *The Solutions*

- *Hwange 1 to 6 Refurbishment (get rid of **WAPCOS**)*
- *Hwange 7 and 8 synchronization to the national grid (**potential sabotage by the Chinese contractor. Resolve this**)*
- *Floating solar on the Kariba Dam (**Hybrid of Solar and Hydro**)*
- *Small-scale embedded **distributed** generation*
- *Solar farms (**CSP and SPV**), learn from UK, Germany & China*
- *Energy Storage (1) **Pumped** (2) **Chemical** (BESS) – stranded power*
- *Batoka (operationalize with Zambia), financing, skills*
- *Gas (LNG in Zimbabwe), e.g. Invictus efforts*
- *Planned & Preventive maintenance*
- ***Use of AI in Asset Management (AI predictive maintenance)***
- *Metaverse (**digital replicas** of power plants)*

Zimbabwe: *The Solutions*

- **Type & depth of skills** (Minister - Zhemu Soda (**Remove this incompetent bookkeeper**), Executive Chairman - Sydney Gate (**Remove this old and failed manager**), professionalize key managers & operatives)
- **Required competencies (BSc, MSc, PhD):** Power Systems, Power Electronics, Electrical Machines, Control Systems, Renewal Energy Engineering, Nuclear Engineering, Management, Leadership
- **Energy Sector Supercritical skills:** Scientists, Technologists, Engineers, Technicians, Artisans (**Leverage the Diaspora**)
- **FINANCE:** A key critical **success factor**; GOZ bankability, the historical record (Private Sector: balance sheet, cash flow) **intensive energy users, big consumers**
- **Timelines:** 3 Months Load-shedding **is over**; 6 Months – on the journey to Sustainable **100% availability** of electricity at the world's **lowest cost**.

South Africa: *The Solutions*

- *Make Installed but unavailable capacity Available*
- *Fresh coal plants*
- *Clean coal technology (though unproven)*
- *Remove diesel as fuel for baseload*
- *Nuclear power (Pros/Cons), clean but waste disposal & accidents*
- *Solar farms (CSP, SPV) Lessons from Germany, UK & China*
- *Energy Storage (1) Pumped (2) Chemical (BESS)*
- *Aluminium smelters (Review)*
- *Planned & Preventive maintenance*
- *Use of AI in Asset Management (AI predictive maintenance)*
- *Metaverse (digital replicas of power plants)*

South Africa: *The Solutions*

- **Type & depth of skills** (Minister - Gwede Mantashe (**Remove him**), outgoing CEO -- Andre de Ruyter (**A wrong appointment**), Professionalize key managers & operatives)
- **Required competencies (BSc, MSc, PhD):** Power Systems, Power Electronics, Electrical Machines, Control Systems, Renewal Energy Engineering, Nuclear Engineering, Management, Leadership
- **Current Eskom specs for the new CEO are faulty!!**
- **Energy Sector Supercritical skills:** Scientists, Technologists, Engineers, Technicians, Artisans
- **FINANCE** – A key **critical success factor** (SA govt & Private Sector)
- **Timeline:** 3 Months Load-shedding **is over**; 6 Months – on the journey to Sustainable **100% availability** of electricity at the world's **lowest cost**

SADC Energy Strategy

- *Enable and leverage **Southern African Power Pool (SAPP)***
- *Batonga & Cahora Basa*
- *14 Gorge Strategy (Hydro plants across SADC rivers, Zambezi etc.)*
- *Grand Inga Dam **70 000 MW**; draw lessons - Grand Renaissance Dam 5 150 MW
(In fact, Inga is an Africa project **SAPP, WAPP, EAPP** off-take)*
- *Nuclear (**sharing the risks from the Western threats**)*
- *Gas distribution network (**vast LNG** from Mozambique - 2024)*
- *Commitment to the SADC NOT lip service*
- *FINANCE? Bankability? Historical record?*
- *Skills?*