Eskom Renewables Support Project: History Current Status

AfDB and WB are Currently the Confirmed Financiers Supporting Eskom Battery Storage Program

in 2011:
- $42m (Borrower)
- $260m (IBRD)
- $250m via WB
- $100m via AfDB
- $265m (AfDB)
- $900m (Bilateral and Commercial lenders)

Project Objectives
"Facilitate accelerated development of large scale renewable energy capacity in support of the long-term carbon mitigation strategy of South Africa."

Project Indicators
- Direct GHG emissions avoided under the Project
- Energy supply from renewable sources
- CTF Leveraged financing under the project

Sere Wind (100 MW)
- 100 MW wind farm Operational since March 2015
- Performance above target
- 260 GWh/y generated
- 0.238 MtCO₂ eq. offset

Kiwano CSP (100 MW)
- Non-responsive bids (Jan 2017)
- End of CSP plant procurement (Aug 2017)
- Eskom proposed alternative (Oct 2017)
- 8 month joint due diligence (Mar 2018)
- Eskom Mgt endorsed alternative (Sep 2018)

Proposed Alternative: Eskom Battery Storage Program
- WB and AfDB endorsed Program
- Same Development Objectives
- Same Target Values
- Clean Energy Integration
- Private Sector Investment Leverage
- High Transformational Potential

~ $4,500m / 2,300 MW
(Private Sector Investment, REIPP rounds 3.5 and 4)
Eskom Battery Storage Program Synopsis

- **Eskom Sere Wind**
  - Multidonors financed
  - 100 MW Wind
  - Storage of existing Sere Wind equivalent capacity
  - Min. 53 ktCO2 offset yearly

- **REIPPP Round 3.5**
  - Private sector
  - 200 MW Solar CSP
  - Storage of REIPPP equivalent capacity
  - Min. 212 ktCO2 offset yearly

- **REIPPP Round 4**
  - Private sector
  - 415 MW Solar PV
  - 676 MW Wind
  - Storage of REIPPP equivalent capacity
  - Min. 133 ktCO2 offset yearly

- **Eskom distributed PV**
  - Eskom financed
  - 60 MW Solar PV
  - 60 MW of Eskom PV capacity
  - Min. 80 ktCO2 offset yearly

**Clean Energy Enabled**
- Displaced integration
- Curtailment Avoided
- Intermitency Mitigated
- Displaced energy
- Grid investment deferral

2020

2021
Beyond The Eskom Program, a Transformational Potential

_Demonstration effect of battery technology as THE tool for countries in Energy Transition_

**Utility perspective**

- From a ‘traditional’ electricity producer to a **modern energy manager**
- With incoming 2,330 MW of Wind and Solar IPPs by 2021, **good timing** to acquire tools and skills for SA’s energy transition to a cleaner mix
- Lessons from large-scale battery program useful to better integrate future **decentralized / rooftop solar capacity**
- More flexibility and more dispatchable clean energy thanks to the batteries, allowing to **decommission old coal plants**

**South Africa perspective**

- In a period of economy recovery, **reliability** of electricity supply is critical to attract private investment (industry, manufacturing)
- Scale up of battery technology in power sector to complement rapid expansion of **variable renewable energy**
- **Integration and industrialisation** in the battery storage value chain (mining, manufacturing, operation) feasible in South Africa

**Africa region and Global perspective**

- Over 5,000MW electrochemical batteries in operation worldwide, But **NO battery connected to the grid in all Africa**
- **Demonstration effect** in South Africa will enable variable renewable energy to expand faster in Africa, and in low income countries.
- Largest WB and AfDB operation on battery storage, mostly funded by CTF, this **flagship project** could serve as reference for many others.
Ngiyabonga!  (Thank You!)

Klipheuwel
Wind Energy
Facility