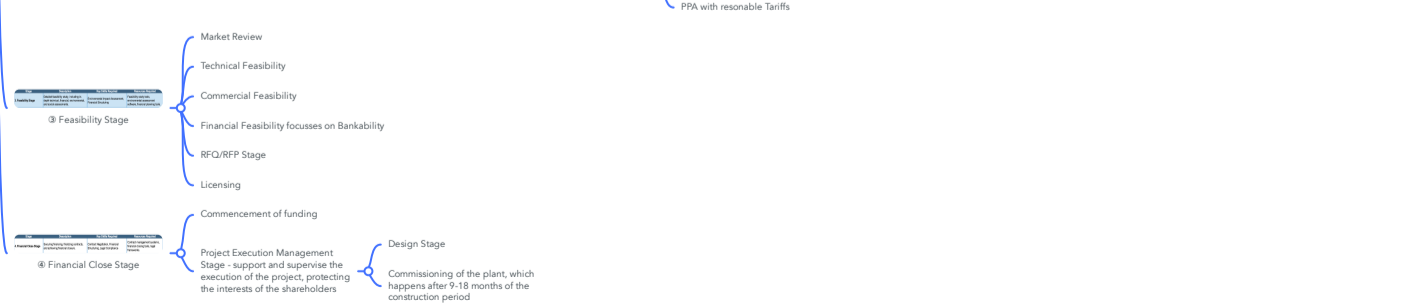
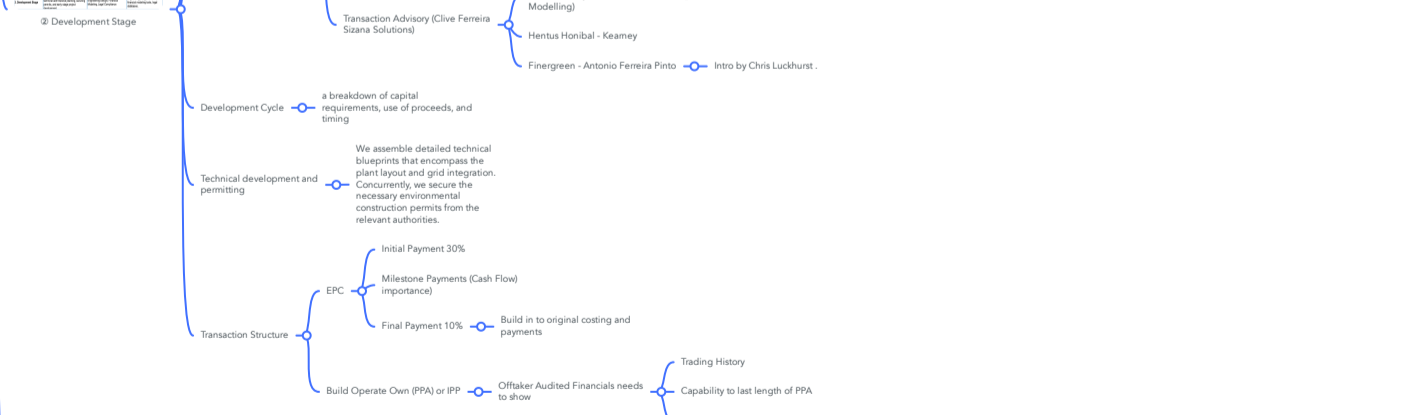
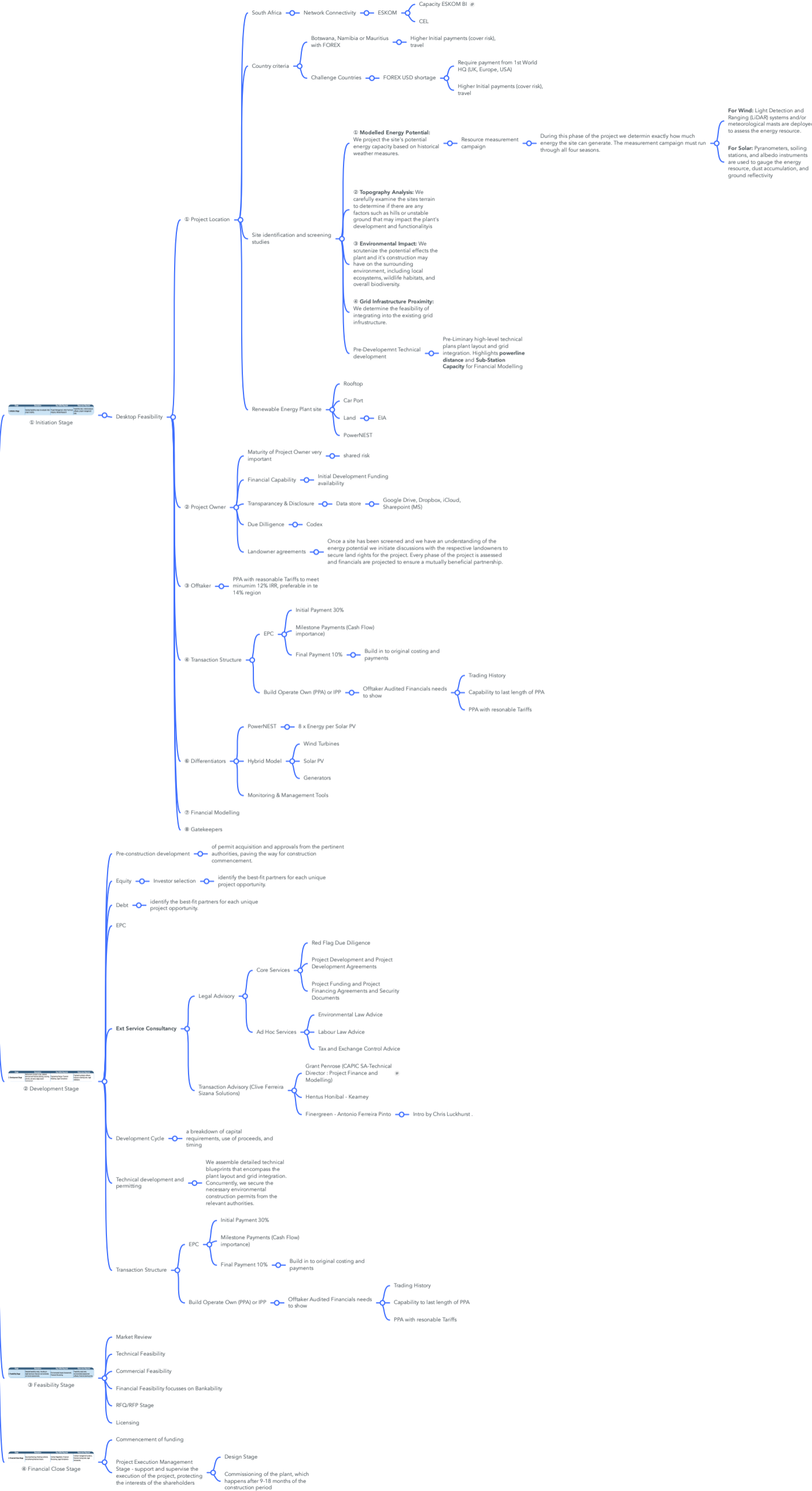
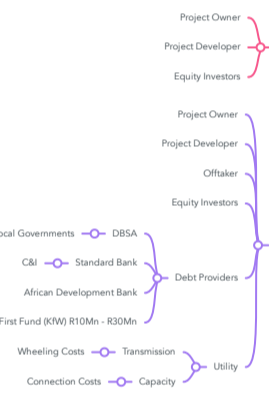


# Default Renewable Energy Mind Map



**For Wind:** Light Detection and Ranging (LiDAR) systems and/or meteorological masts are deployed to assess the energy resource.

**For Solar:** Pyranometers, soiling stations, and albedo instruments are used to gauge the energy resource, dust accumulation, and ground reflectivity

## Default Renewable Energy Mind Map

### 1. Project Stages

#### 1.1. ① Initiation Stage

##### 1.1.1. Desktop Feasibility

###### 1.1.1.1. ① Project Location

###### 1.1.1.1.1. South Africa

###### 1.1.1.1.1.1. Network Connectivity

###### 1.1.1.1.1.1.1. ESKOM

###### 1.1.1.1.1.1.1.1. Capacity ESKOM BI

**Link:** [https://app.powerbi.com/view?](https://app.powerbi.com/view?r=eyJrjoiMGY3ODI4NWQ3MWZkMS00YjJlLTK1YTUtOWEYtYk0NDdhMWQ3liwidCI6IjZlYmRjLWNjctNDY1Mi1hYTEyLWQyNTBhODc2YWU3OSJ9)

[r=eyJrjoiMGY3ODI4NWQ3MWZkMS00YjJlLTK1YTUtOWEYtYk0NDdhMWQ3liwidCI6IjZlYmRjLWNjctNDY1Mi1hYTEyLWQyNTBhODc2YWU3OSJ9](https://app.powerbi.com/view?r=eyJrjoiMGY3ODI4NWQ3MWZkMS00YjJlLTK1YTUtOWEYtYk0NDdhMWQ3liwidCI6IjZlYmRjLWNjctNDY1Mi1hYTEyLWQyNTBhODc2YWU3OSJ9)

###### 1.1.1.1.1.1.1.2. CEL

###### 1.1.1.1.2. Country criteria

###### 1.1.1.1.2.1. Botswana, Namibia or Mauritius with FOREX

###### 1.1.1.1.2.1.1. Higher Initial payments (cover risk), travel

###### 1.1.1.1.2.2. Challenge Countries

###### 1.1.1.1.2.2.1. FOREX USD shortage

###### 1.1.1.1.2.2.1.1. Require payment from 1st World HQ (UK, Europe, USA)

###### 1.1.1.1.2.2.1.2. Higher Initial payments (cover risk), travel

###### 1.1.1.1.3. Site identification and screening studies

###### 1.1.1.1.3.1. ① **\*\*Modelled Energy Potential:\*\*** We project the site's potential energy capacity based on historical weather measures.

###### 1.1.1.1.3.1.1. Resource measurement campaign

1.1.1.1.3.1.1.1. During this phase of the project we determine exactly how much energy the site can generate. The measurement campaign must run through all four seasons.

1.1.1.1.3.1.1.1.1. **\*\*For Wind:\*\*** Light Detection and Ranging (LiDAR) systems and/or meteorological masts are deployed to assess the energy resource.

1.1.1.1.3.1.1.1.2. **\*\*For Solar:\*\*** Pyranometers, soiling stations, and albedo instruments are used to gauge the energy resource, dust accumulation, and ground reflectivity

###### 1.1.1.1.3.2. ② **\*\*Topography Analysis:\*\*** We carefully examine the sites terrain to determine if there are any factors such as hills or unstable ground that may impact the plant's development and functionality

###### 1.1.1.1.3.3. ③ **\*\*Environmental Impact:\*\*** We scrutinize the potential effects the plant and its construction may have on the surrounding environment, including local ecosystems, wildlife habitats, and overall biodiversity.

###### 1.1.1.1.3.4. ④ **\*\*Grid Infrastructure Proximity:\*\*** We determine the feasibility of integrating into the existing grid infrastructure.

###### 1.1.1.1.3.5. Pre-Development Technical development

1.1.1.1.3.5.1. Pre-Liminary high-level technical plans plant layout and grid integration. Highlights **\*\*powerline distance\*\*** and **\*\*Sub-Station Capacity\*\*** for Financial Modelling

###### 1.1.1.1.4. Renewable Energy Plant site

###### 1.1.1.1.4.1. Rooftop

###### 1.1.1.1.4.2. Car Port

###### 1.1.1.1.4.3. Land

###### 1.1.1.1.4.3.1. EIA

###### 1.1.1.1.4.4. PowerNEST

###### 1.1.1.2. ② Project Owner

###### 1.1.1.2.1. Maturity of Project Owner very important

###### 1.1.1.2.1.1. shared risk

###### 1.1.1.2.2. Financial Capability

###### 1.1.1.2.2.1. Initial Development Funding availability

###### 1.1.1.2.3. Transparency & Disclosure

###### 1.1.1.2.3.1. Data store

###### 1.1.1.2.3.1.1. Google Drive, Dropbox, iCloud, Sharepoint (MS)

###### 1.1.1.2.4. Due Dilligence

###### 1.1.1.2.4.1. Codex

#### 1.1.1.2.5. Landowner agreements

1.1.1.2.5.1. Once a site has been screened and we have an understanding of the energy potential we initiate discussions with the respective landowners to secure land rights for the project. Every phase of the project is assessed and financials are projected to ensure a mutually beneficial partnership.

#### 1.1.1.3. ③ Offtaker

1.1.1.3.1. PPA with reasonable Tariffs to meet minimum 12% IRR, preferable in the 14% region

#### 1.1.1.4. ④ Transaction Structure

##### 1.1.1.4.1. EPC

1.1.1.4.1.1. Initial Payment 30%

1.1.1.4.1.2. Milestone Payments (Cash Flow) importance

1.1.1.4.1.3. Final Payment 10%

1.1.1.4.1.3.1. Build in to original costing and payments

##### 1.1.1.4.2. Build Operate Own (PPA) or IPP

1.1.1.4.2.1. Offtaker Audited Financials needs to show

1.1.1.4.2.1.1. Trading History

1.1.1.4.2.1.2. Capability to last length of PPA

1.1.1.4.2.1.3. PPA with reasonable Tariffs

#### 1.1.1.5. ⑥ Differentiators

##### 1.1.1.5.1. PowerNEST

1.1.1.5.1.1. 8 x Energy per Solar PV

##### 1.1.1.5.2. Hybrid Model

1.1.1.5.2.1. Wind Turbines

1.1.1.5.2.2. Solar PV

1.1.1.5.2.3. Generators

##### 1.1.1.5.3. Monitoring & Management Tools

#### 1.1.1.6. ⑦ Financial Modelling

#### 1.1.1.7. ⑧ Gatekeepers

### 1.2. ② Development Stage

#### 1.2.1. Pre-construction development

1.2.1.1. of permit acquisition and approvals from the pertinent authorities, paving the way for construction commencement.

#### 1.2.2. Equity

##### 1.2.2.1. Investor selection

1.2.2.1.1. identify the best-fit partners for each unique project opportunity.

#### 1.2.3. Debt

1.2.3.1. identify the best-fit partners for each unique project opportunity.

#### 1.2.4. EPC

#### 1.2.5. \*\*Ext Service Consultancy\*\*

##### 1.2.5.1. Legal Advisory

###### 1.2.5.1.1. Core Services

1.2.5.1.1.1. Red Flag Due Diligence

1.2.5.1.1.2. Project Development and Project Development Agreements

1.2.5.1.1.3. Project Funding and Project Financing Agreements and Security Documents

###### 1.2.5.1.2. Ad Hoc Services

1.2.5.1.2.1. Environmental Law Advice

1.2.5.1.2.2. Labour Law Advice

1.2.5.1.2.3. Tax and Exchange Control Advice

##### 1.2.5.2. Transaction Advisory (Clive Ferreira Sizana Solutions)

1.2.5.2.1. Grant Penrose (CAPIC SA-Technical Director : Project Finance and Modelling)

<https://www.capic.co.za/our-people/>(<https://www.capic.co.za/our-people/>)

1.2.5.2.2. Hentus Honibal - Kearney

#### 1.2.5.2.3. Finergreen - Antonio Ferreira Pinto

##### 1.2.5.2.3.1. Intro by Chris Luckhurst .

#### 1.2.6. Development Cycle

##### 1.2.6.1. a breakdown of capital requirements, use of proceeds, and timing

#### 1.2.7. Technical development and permitting

1.2.7.1. We assemble detailed technical blueprints that encompass the plant layout and grid integration. Concurrently, we secure the necessary environmental construction permits from the relevant authorities.

#### 1.2.8. Transaction Structure

##### 1.2.8.1. EPC

###### 1.2.8.1.1. Initial Payment 30%

###### 1.2.8.1.2. Milestone Payments (Cash Flow) importance)

###### 1.2.8.1.3. Final Payment 10%

###### 1.2.8.1.3.1. Build in to original costing and payments

##### 1.2.8.2. Build Operate Own (PPA) or IPP

###### 1.2.8.2.1. Offtaker Audited Financials needs to show

###### 1.2.8.2.1.1. Trading History

###### 1.2.8.2.1.2. Capability to last length of PPA

###### 1.2.8.2.1.3. PPA with reasonable Tariffs

#### 1.3. ③ Feasibility Stage

##### 1.3.1. Market Review

##### 1.3.2. Technical Feasibility

##### 1.3.3. Commercial Feasibility

##### 1.3.4. Financial Feasibility focusses on Bankability

##### 1.3.5. RFQ/RFP Stage

##### 1.3.6. Licensing

#### 1.4. ④ Financial Close Stage

##### 1.4.1. Commencement of funding

##### 1.4.2. Project Execution Management Stage - support and supervise the execution of the project, protecting the interests of the shareholders

###### 1.4.2.1. Design Stage

###### 1.4.2.2. Commissioning of the plant, which happens after 9-18 months of the construction period

### 2. **\*\*Stakeholders\*\***

#### 2.1. Project Owner

#### 2.2. Project Developer

#### 2.3. Offtaker

#### 2.4. Equity Investors

#### 2.5. Debt Providers

##### 2.5.1. DBSA

###### 2.5.1.1. C&I, Local Governments

##### 2.5.2. Standard Bank

###### 2.5.2.1. C&I

##### 2.5.3. African Development Bank

##### 2.5.4. First Fund (KfW) R10Mn - R30Mn

#### 2.6. Utility

##### 2.6.1. Transmission

###### 2.6.1.1. Wheeling Costs

##### 2.6.2. Capacity

###### 2.6.2.1. Connection Costs

### 3. **\*\*Shareholders\*\***

#### 3.1. Project Owner

#### 3.2. Project Developer

#### 3.3. Equity Investors