MOZAMBIQUE POWER SECTOR OUTLOOK

7th – 8th June 2017
Presentation Outline

1. Mozambique Macro Economic Landscape
2. Power Sector Strategic Investments
3. Generation Projects
4. EDM Ongoing Transformation
5. Key Observations
MOZAMBIQUE MACRO-ECONOMIC LANDSCAPE

Mozambique Profile

- Geostrategic Location
- Stable Investment Legislation
- Strong private investment
- Abundant Natural Resources
- Diversified Economy


GDP by sector (%)

- Agriculture 31%
- Wholesale & retail trade 14%
- Manufacturing 13%
- Finance and services 10%
- Transport and communication 10%
- Other 23%

SOURCE: WSW/EMTMOSCO/MOZ/DEH
Emergency: Avoid fatal collapse of the electric system, continuity of supply of electricity

Short term 386 M$ 2-3 Years
Stabilization: Security of supply and safety operation

Medium term 2,398 M$ 3-5 Years
Expansion: Priority and structural projects (Redundancy and Industrialization)

Long term 5,097 M$ 5-10 Years
Leadership: Infrastructure GX, TX e DX (Markets, including exports)

• Infrastructure damage by accidentes
• Infrastructure in risk of collapse
• Infrastructure due to risk of collapse there is a consequence of collapse of supply of electricity
  (emergency/urgent need to repair transformers and networks to unlock power evacuation)

• Infraestruturas which are being operated bellow technical and safety operating standards
• Infrastructure which enables redundancy, reliability of supply, including Industries
• Infrastructure for Development corridors (Nacala, Beira, Mocuba, Pemba) and Industrial Hubs
  (New generation, new transmission lines, including redundancies)

Strategic Investments

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<tbody>
<tr>
<td>Critical 227 M$ 1-2 Years</td>
<td>2,005 MUSD</td>
<td>3,585 MUSD</td>
<td>2,502 MUSD</td>
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<td>Short term 386 M$ 2-3 Years</td>
<td>250.0</td>
<td>1,342.5</td>
<td>805.3</td>
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<tr>
<td>Medium term 2,398 M$ 3-5 Years</td>
<td>150.3</td>
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<td>Long term 5,097 M$ 5-10 Years</td>
<td>85.0</td>
<td>1,530.0</td>
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(Expansion of generation and transmission to connect load centers and markets)
Indicative Sources of Supply in Forecast
(EDM Outlook Apr'17)
Domestic and export revenues trends and opportunities

- EDM’s total revenue in 2016 was 460 MUSD in which 248 MUSD on dollar base denominated transactions.
- Internal regulated tariffs increased 67% in 2 years.
- Business could grow to USD1.5bn in 2022 (3 x).
**Generation Potential**

Sub-Saharan Africa has rich potential to install ~1.2 terawatts of power capacity from a range of different technology options – not including solar

<table>
<thead>
<tr>
<th>Power-generation potential for select Sub-Saharan African countries by technology¹</th>
<th>Gas</th>
<th>Coal</th>
<th>Hydro</th>
<th>Geo</th>
<th>Wind</th>
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<td>Mozambique</td>
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<td>Sudan</td>
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¹ Potential from domestic resources only; gas includes all conventional proven/speculative reserves, and hydro includes all technically exploitable potential.

Generation Sources / Projects included in Forecast
(as of April 2017 - but NOT necessarily exhaustive list……….. )

- **Cahora Bassa** (2,075MW, of which 500MW to Moz)
- **Cahora Bassa Norte** (1,245MW)
- **Mphanda Nkuwa** (1,500 MW)
- **TSATSE Hydro** (50 MW)
- **Kuvaninga** (40 MW)
- **Mavuzi & Chicamba refurbishment** (88 MW)
- **CTRIG** (175 MW)
- **CTM** (100 MW)
- **Rovuma Gas** (200 MW)
- **Nacala Powership** (50-100 MW)
- **Mocuba PV** (41 MW)
- **Metoro PV** (41 MW)
- **Temane** (400 MW)
- **Gigawatt** (100 MW)
- **Aggreko** (now 95MW)
- **Before 2014**
- **2015 - 2017**
- **2018 - 2021**
- **2022 onwards**
Regional Power Market

**Internal generation HUB**
- Small and medium scale
- 200 MW Hydro

**Medium scale generation HUB (Ressano Garcia)**
- Up to 500 MW, including exports

**Medium scale generation HUB (Temane)**
- Up to 800 MW, including exports

**Large Scale Generation HUB**
- Up to 10,000 MW (internal consumption and exports)

**Regional Power Generation HUB**
- > 10,000 MW

**Regional Power Market**
- Medium to large scale generation HUB (Palma), up to 3,000 MW, including exports
EDM Ongoing Transformation Program

**GOVERNANCE**

- New Organisation Structure, New Board
- Performance base Contract for Senior Managers
- Centralized Procurement with New Procedures
- Code of Conduct and Ethics

**FINANCIAL**

- Closing of the Accounts 2015 (November) and 2016 (April)
- Centralized Procurement, Budget,
- Process Re-engineering, Cost Centre Accounting

**HUMAN RESOURCES**

- Stream line the Organisational Structure (flat and functional)
- External Selection of Directors and Managers
- New Grading Structure and New Career Paths

**POLICY MATTERS** (internal)

**STRATEGIC STUDIES** (New National Electrification Strategy and Plan to Accelerate Universal Access to Energy in Mozambique by 2030, Integrated Master Plan, Cost of Supply study, Asset Audit and Revaluation, and others, Pension Liability Study)
Key Observations

• **Sustainable demand growth** of ~10% p.a.

• **EDM’s business size** grows from ~USD385m (in 2015) to USD2.0bn over 10 years (i.e. 5 times current size)!
  
  – Export sales accounted for USD 95m in 2015 and USD 198m in 2016 on a 460 MUSD total revenues
  
  – **EDM need to enhance the business management practices and performance with transparent Governance and auditable/global process in place**

• **EDM business transformation**
  
  – Adequate regulatory framework and policies including the establishment of a well functional regulator

• **Large investments needs** in network expansion, strengthening & rehabilitation, in particular over the period 2016-24
  
  – Annual investments peak at ~USD520m in 2019 (average ~USD300m p.a.)

  – Significant financing requirements – with all types of finance required (grants, soft loans and commercial borrowing)

• **Path to fully cost reflective tariffs is critical** (recent increase was eroded by currency depreciation (> 70 % in the last 18 months – further significant increases are required!)

**EDM is facing challenging but exciting opportunities!**
THANK YOU