Power Sector Restructuring in the Philippines

Raphael Lotilla
OVERVIEW OF ELECTRIC POWER INDUSTRY
PRE-EPIRA

OWNERSHIP

State monopoly of Generation & Transmission of electricity

Private monopoly within franchise area

No power to choose source of electricity

NPC Generation + Transmission & Sub transmission

Distribution Utilities

End-users

REGULATORY REGIME
(Energy Regulatory Board)

Bundled Regulated Tariff Price Setting

E. O. 215 BOT Law

Bundled Tariff

Source: PSALM
The government, through National Power Corporation, incurred humongous debts, which as of 2000 amounted to USD 16.538 billion:

- NPC debts- USD 6.305 billion
- IPP obligations- USD 10.233 billion

Subsidized power rates that are not reflective of true cost of electricity production

**Government buried in debt!**
POWER SECTOR DEBT PROFILE ($ BILLION)

Source: PSALM
POWER SECTOR DEBT (% OF TOTAL NG DEBT, AND % OF GDP)

Sources: PSALM, DOF
HOW DID THE GOVERNMENT ADDRESS THESE PROBLEMS?  
THE ENACTMENT OF THE EPIRA IN 2001

EPIRA Solutions

- Privatize NPC and addressing its debts
- Absorption of loans extended to 119 electric cooperatives to make them more viable
- Create competition in the power industry to bring about reasonable power rates thru dismantling of government monopoly in the generation and transmission sectors and establishment of open access and retail competition in the distribution sector

Government EXITS but LEAVES an environment for real competition.
EPIRA Solutions

- Created a new Energy Regulatory Commission to replace the Energy Regulatory Board with broad additional powers.
- Provided for retail competition and open access upon privatization of 70% of generation assets and IPP contracts, removal of cross-subsidies, and establishment of an electricity spot market.
- Created a Power Assets and Liabilities Management Corp. in charge of privatization.

HOW DID THE GOVERNMENT ADDRESS THESE PROBLEMS?
THE ENACTMENT OF THE EPIRA IN 2001
THE NEW ELECTRIC POWER INDUSTRY STRUCTURE UNDER EP IRA

- Sale of NPC generation assets
- Unbundling of electricity tariffs for transparency
- Opening up of high voltage lines for easy access of distributors & large consumers
- Opening up of distribution lines for competitive consumers

Source: Department of Energy

**EPIRA Solutions**

- Essentially did not touch the distribution utilities consisting of 20 private distribution utilities and 119 electric cooperatives
- The private DU in Metro Manila accounts for 70% of the market in main island Luzon with significant government ownership but controlled by another private corporation, and with IPP contracts with companies related to latter
### Privatization of NPC and Creation of Competition

#### Ownership

**PSALM**

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities (Generation/Transmission)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Generation</td>
<td>• Loans</td>
</tr>
<tr>
<td>• IPP Contracts</td>
<td>• Debts</td>
</tr>
<tr>
<td>• Real estate/other disposable assets</td>
<td>• Securities</td>
</tr>
</tbody>
</table>

**NPC**

- Missionary Electrification in non-grid areas

**TRANSCO**

- Transmission/Subtransmission

**Small Power Utilities Group**

**EPIRA**
Privatization of NPC and Creation of Competition

Ownership

PSALM

Assets
- Generation
- IPP Contracts
- Real estate/ other disposable assets

Liabilities
- Loans
- Debts
- Securities

NPC

Small Power Utilities Group

Owned 100% by PSALM

TRANSCO
Transmission/ Sub transmission

IPP Contracts

Real Estate/ Other Assets

Privatization by Concession (NGCP)

End-users

Open Access (70%)

Source: PSALM
**Privatization of Generating Assets:** To date, more than 90% of generating capacity has been privatized.

**Privatization of the Transmission Business.** The operation and management of the transmission business by the National Grid Corporation of the Philippines (NGCP) or the TransCo concessionaire commenced on 15 January 2009.

**Commercial Operations of the Spot Market; Retail Competition and Open Access.** The commercial operations of the Wholesale Electricity Spot Market (WESM) began in June 2006 in Luzon, and became operational in the Visayas in 2010. Full commercial operations under a regime of retail competition and open access started on 26 June 2013 for customers consuming 1 MW and up.
Delays in implementation pushed generators to contract with DUs instead of reserving for Open Access.
A. Enacting the Reforms into Law

1. Shelving and revival of the bill between administrations
2. Issues were left for Congress to resolve: cross-ownership between generation and distribution, the timing of open access, stranded contract costs of the private sector, and bilateral supply contracts between related parties.
3. Opposition to the reforms: some members of Congress, NPC employees, entrenched private interests NGOs.
4. Shift in relations between the executive and legislative branches of government: A number of EPIRA provisions strengthened the power of the legislature over the execution of the reform process.
B. Constraints During Implementation of Reforms

1. **Deteriorating financial position of NPC:**
   - An inherited generation overcapacity – mostly through fast-tracked BOT contracts with IPPs
   - Total reliance on borrowings to finance its asset expansion, with hardly any equity support from the government
   - Capping of the purchased power cost adjustment recoverable by NPC
   - A tariff structure that would not allow full cost recovery, adversely affecting interest in the privatization
   - Plummeting value of the peso
B. Constraints During Implementation of Reforms

2. Systemic Delays:

- the restructuring of NPC into 3 separate corporations took time
- the inventory and transfer of assets from NPC to PSALM were delayed
- privatization pre-requirements that Congress failed to consider in setting target implementation dates: creditors’ consent, land issues, other legal impediments concerning individual plants
- resistance from affected officers and personnel of NPC
B. Constraints During Implementation of Reforms

3. Congressional moves:
   - Conflicting legislative actions
     - 25-year extension of several franchises of Meralco expiring in 2003; and consolidation of all the different franchises of Meralco into a mega-franchise
     - Dilution of the strict cross-ownership prohibitions between transmission sector on the one hand and the generation and distribution sectors on the other, in the course of approving the franchise of NGCP in 2008.
   - Joint Congressional Power Commission’s prior approval of changes in privatization plan
B. Constraints During Implementation of Reforms

4. *Cases brought to court that questioned:*
   - ERC’s approval of an automatic adjustment mechanism for generation costs with foreign exchange component.
   - The sale of a hydro plant to a Korean company on the ground that water resource utilization is subject to a maximum 40% foreign ownership.
     - The Supreme Court upheld the sale, but turnover to the winning bidder was delayed until the court’s decision was issued.
   - Constitutionality of EPIRA’s declassification of generation as a public utility no longer subject to a 40% limit on foreign ownership.
B. Constraints During Implementation of Reforms

5. Other difficulties:
- Lack of competition in the initial stage of WESM commercial operations (to mimic competition on the generation side, NPC’s plants were divided among different trading teams in PSALM and NPC).
- Learning curve of all the players in the market
- Learning curve of ERC, thus delays in its delivery of newly mandated functions.
- Frequent changes in the leadership of ERC
- Difficulties in obtaining local government permits
- Propensity of power plant objectors in using the courts to delay projects
C. Results

1. Privatization of NPC’s generation contracts were not fully met until 2010.

2. Even then, retail competition and open access were not declared operational until 2013.

3. ERC missed the opportunity to reorganize its structure and staff

4. Congress passed a law in 2013 allowing limited take-over of financially distressed electric cooperatives
Observations and Conclusions

1. The implementation of the EPIRA has so far taken 14 years and remains unfinished.
2. Contributory factors to EPIRA’s passage: regional financial crisis, internal political crisis, a change in mindset.
3. Greater transparency in the sector now exists.
4. More players have entered the sector.
5. The market-oriented reforms, once set into motion, create a new momentum for other changes. Thus, perhaps one can appreciate the decision of the President and the Cabinet in hindsight, not to insist on an “all or nothing” position in bargaining with Congress.
6. The market reforms also create a strong constituency behind it.

7. Reforms had to be accompanied by safety nets/protection for the marginalized sectors through, for example, a well-targeted life-line rate system involving cross-subsidies among consumers.

8. For consumers, the most expensive form of electricity is having none.

9. Political support from the highest levels for the reforms, even if at times waffling, is necessary.

10. There is less resistance to/more support for reforms from private business where reforms involved privatization of government assets. On the other hand, there is greater resistance where private interest is present and affected.
11. In retrospect, ERC was overloaded with responsibilities including issuance of new rules under a privatized set-up, and responsibilities for competition and consumer protection. There is currently a backlog in the processing of applications for new generation plants.

12. There can be disadvantages to a collegial regulatory set-up consisting of 5 commissioners.
OBSERVATIONS AND CONCLUSIONS

13. Close coordination among government agencies, particularly between the regulator and the rest of the executive department is required in the implementation of reforms. Despite criticisms against EPIRA, it is worthwhile noting that the more responsible critics of EPIRA concede that even with the law’s weaknesses, the reforms can be made to work through improvements in its implementation.

15. Thus, in a state where political power is relatively diffused as in the Philippines under a presidential system with strict separation of powers, and elections other than for president taking place every three years, the power sector reforms demonstrate that it is still possible to adopt and implement fundamental market-oriented reforms by building alliances among different interest groups but over a relatively extended period of time and seizing opportunities that major crises can bring.
THANK YOU

RAPHAEL P. M. LOTILLA
Exploring Private Sector Participation in Ghana’s Electricity Distribution Sector

Praveer Sinha,
CEO & MD
Tata Power Delhi Distribution Ltd.
• Joint Venture of Tata Power and Govt. of Delhi (51:49)

• License Area: North and North West Delhi (510 sq km)

• Annual Turnover: 1.11 Billion US Dollar

• Consumer Base: 1.4 Million

• Population Served: 6.0 Million

• Peak Load Served: 1704 MW

• ISO 9001, 14001, 27001; SA 8000; OHSAS 18001 Certified
Asset valuation was done in Business Valuation Method
- License-based Regulated business for 25 years.
- Guaranteed 16% RoE on meeting AT&C Targets.
- Tariff set by regulator on cost plus RoE basis.

Financial Support Pre-estimated & Capped at USD 690 Mn by GoNCTD to DTL over the 5 Years Transition Period Vs USD 240 Mn. Gap / Annum

Transfer of Clean Balance Sheet to DISCO.

GoNCTD Past Receivables—Collection Commission as 20%

Independent Third Party Audit post privatization to facilitate Accurate AT&C Loss determination & True up for any variation to a reasonable extent.
Initial Challenges - 2002

- Regular Power Cuts, Black Outs & Brown Outs of 4-6 hours
- 20,000 applications pending for New Connections - even Attribute change (Name, Load etc.) requests were pending for years
- 1,00,000 Billing Complaints - 15% of the customer base complaints pending in files
- Erroneous Customer Database – 50% of customers had some form of an error
- Absence of Customer Relationship approaches – virtually no emphasis on customer comfort
- No Digitization - Limited Computerization / Absence of CRM for tracking and monitoring of Customer Complaints

- AT&C/Theft losses range between 53% to 60% of Input
- Govt. Subsidies approx. USD 240 Mn. per annum to bridge Revenue Gap
- Condition of Network pathetic
- Billing Receivables close to 1 year outstanding

Nothing moved unless long hours were spent standing in queues
Perceptible Change

Then

Manual Communication during Outages

Longer Power Cuts
Perceptible Change

Now

24x7 Power Supply
Fully Automated
Unmanned Grids

Sixty Seven (67) 66/11 KV & 33/11 KV Unmanned Automated Grid Substations catering to TPDDL Peak Demand of 1700 MW
Perceptible Change

Then

Manual Processes

Pending New Connections

Erroneous Bills

Tedious Processes with complex documentation and accounting
Stakeholders & their Expectations

Now

Instant Service at Doorstep

Integrated Web Services for Desktops & Handheld Devices
Stakeholders & their Expectations

Then

- Long Queues
- Unhappy Customers
- Frequent Manhandling
Integrated GIS-OMS-SCADA-CRM
### Turnaround - Transformation Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>Jul’02</th>
<th>Mar’15</th>
<th>% Change</th>
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<tr>
<td>AT&amp;C Losses</td>
<td>%</td>
<td>53.1</td>
<td>9.87</td>
<td>81%</td>
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<tr>
<td>Consumers</td>
<td>Million</td>
<td>0.6</td>
<td>1.49</td>
<td>105%</td>
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<tr>
<td>System Reliability – ASAI - Availability Index</td>
<td>%</td>
<td>70</td>
<td><strong>99.52</strong></td>
<td>42%</td>
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<tr>
<td>Transformer Failure Rate</td>
<td>%</td>
<td>11</td>
<td>0.76</td>
<td>93%</td>
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<tr>
<td>Peak Load</td>
<td>MW</td>
<td>930</td>
<td>1704</td>
<td>83%</td>
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<tr>
<td>Length of Network</td>
<td>Ckt. Km</td>
<td>6750</td>
<td>12313</td>
<td>82%</td>
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<tr>
<td>Street Light Functionality</td>
<td>%</td>
<td>40</td>
<td><strong>99.57</strong></td>
<td>149%</td>
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<tr>
<td>Employees</td>
<td>Nos.</td>
<td>5600</td>
<td>3457</td>
<td>38%</td>
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<tr>
<td>Mean Time to Repair Faults</td>
<td>Hours</td>
<td>11</td>
<td><strong>1.53</strong></td>
<td>86%</td>
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<tr>
<td>Payment Collection Avenues</td>
<td>Nos.</td>
<td>20</td>
<td>6725</td>
<td>33525%</td>
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<tr>
<td>Consumer Satisfaction Index</td>
<td>%</td>
<td>-</td>
<td>84</td>
<td>-</td>
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<tr>
<td>New Connection Energization Time</td>
<td>Days</td>
<td>51.8</td>
<td>5</td>
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<tr>
<td>Meter Replacement Time</td>
<td>Days</td>
<td>25</td>
<td>4</td>
<td>84%</td>
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<tr>
<td>Pending New Connection Applications</td>
<td>Millions</td>
<td>0.02</td>
<td>Nil</td>
<td>100%</td>
</tr>
<tr>
<td>Pending Metering &amp; Billing Complaints</td>
<td>Millions</td>
<td>0.1</td>
<td>Nil</td>
<td>`100%</td>
</tr>
<tr>
<td>Reading to Billing Time</td>
<td>Days</td>
<td>45</td>
<td>3</td>
<td>93%</td>
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<tr>
<td>Provisional Billing</td>
<td>%</td>
<td>30</td>
<td>&lt;2</td>
<td>80%</td>
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<tr>
<td>Defective Bills</td>
<td>%</td>
<td>6</td>
<td>0.2</td>
<td>97%</td>
</tr>
<tr>
<td>Bill Complaint Resolution</td>
<td>Days</td>
<td>45</td>
<td>4</td>
<td>91%</td>
</tr>
<tr>
<td>Call Center Performance - Service Level</td>
<td>%</td>
<td>-</td>
<td>91</td>
<td>-</td>
</tr>
</tbody>
</table>
**Sectoral Experience**: TATA Power has vast experience in handling PPP project in entire value chain including, Generation, Transmission & Distribution in counties such as Bhutan, South Africa, Georgia, etc.

**Management & Technical Expertise a key**: TATA Power has an experience of over 100 years in running power business

**Ability to bring in Finances**: TPDDL has invested nearly 225 Mn USD in the first 5 years in operation for network improvement

**Similar Social Economic Condition** (Example AES left business abruptly in Orissa)

No quick fix available, **Long term commitment and effort by the Government**

**Nomination of Senior Govt. Bureaucrats as Board members**; thereby, ensuring active involvement of in all governance matters. **Regular reviews** on performance as well as issues of DISCOM at the level of Power Minister

**Transition support**, in the form of loan, for adjusting the cost of Bulk power purchase

Creation of Govt. run **pension fund for comforting the employees**
TATA Power - Enormous Experience in PPP Projects

- Founded in 1906 to supply power to Mumbai, Financial Capital of India
  - First hydro plant commissioned in 1915
  - Set up thermal power plants in Mumbai in the 1950s
- Expanded in India after private sector reforms in 1990s

Play across the entire value chain, Successful Public Private Partnerships in generation, transmission and distribution

**Fuel**
- Stake in Indonesian mines
- Two (2) Domestic mines being developed
- Fuel supply in place for majority of operational and under-execution projects

**Generation**
- 8,521 MW operational capacity – 7,646 MW of thermal
- 1,151 MW under build

**Transmission**
- Mumbai:
  - 1,100 circuit km of 220KV/110 KV lines and 19 receiving stations
- Powerlinks:
  - 1,200 km of line associated with Tala hydro project
  - Connects Bhutan and Northern Region

**Distribution**
- Mumbai distribution network
  - Over .4 Million retail consumers
- Delhi distribution
  - Over 1.4 million customers

- Thrust on renewable energy sources including hydro, wind, solar and geothermal
- Successful Public Private Partnerships in generation, transmission and distribution

GOVERNMENT AS PARTNER - LONG TERM COMMITMENT & CONTINUOUS EFFORTS A KEY TO SUCCESS
CLARITY ON REGULATION WAS KEY TO SUCCESS ON DELHI REFORM MODEL

Regulatory – plays key role
- Loss reduction trajectory proposed by Bidder was accepted by the DERC for the Multi Year Tariff
- Bulk supply tariff and Transition support was agreed in principle with DERC prior to the privatization
- Probable Tariff structure was communicated to the investor for enabling risk evaluation.

Profit linked to DERC Approved Investment on infrastructure

Incentives and Penalties for Over/Under Achievement of Regulatory Targets
- A&G – Administrative & General
- R&M – Repair & Maintenance Cost
Collaboration of Public and Private sector focused on Affordable Tariffs, expansion of service coverage, local content and local participation

Delhi Experience:
- Consumer: Protected from the Tariff shock with transition support by the government
- Investor: With pre-notified tariff structure and ROE investor was assured of their return
- Existing Employees: As per the agreement jobs of all the employees were protected
- Government: With high initial investment by the investor power supply situation improving at a rapid pace

Local Content/ Local Participation: Existing employment contract can be protected so that new investor can use the knowledge gathered by the existing employees

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<td>220</td>
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<td>245</td>
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<td>245</td>
<td>245</td>
<td>315</td>
<td>400</td>
<td>122%</td>
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<tr>
<td>PPC*</td>
<td>152</td>
<td>152</td>
<td>157</td>
<td>199</td>
<td>211</td>
<td>219</td>
<td>300</td>
<td>286</td>
<td>368</td>
<td>425</td>
<td>529</td>
<td>545</td>
<td>258%</td>
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<table>
<thead>
<tr>
<th>Metro Cities</th>
<th>Delhi</th>
<th>Bangalore</th>
<th>Mumbai (R-Infra)</th>
<th>Kolkata</th>
<th>Pepco Holding (Washington)</th>
<th>Vattenfall (Germany)</th>
<th>Singapore</th>
<th>TEPCO (Japan)</th>
<th>KEPCO (S. Korea)</th>
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<tr>
<td>Energy Charges</td>
<td>3.9</td>
<td>4.09</td>
<td>4.78</td>
<td>4.12</td>
<td>6.93</td>
<td>13.57</td>
<td>12.54</td>
<td>13.44</td>
<td>5.46</td>
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</tbody>
</table>

MANAGING DIFFERENT EXPECTATION FROM DIFFERENT STAKEHOLDERS IS KEY TO THE SUCCESS OF THE REFORM PROCESS
Consistently Loss Reduction Exceeding Targets

- Saved over USD 2.1 Billion for Govt. in 12 years; facilitated development of other infrastructure; lower taxes
- Repaid USD 100 Million loan to Govt.
- Paid Dividends to Govt. and Tata Power (FY 2013-14: Dividend 12%)
- Amongst lowest Tariffs in the country with highest availability and reliability of power
- 1:2 Bonus Shares Issued in FY ‘09
Nigeria (High Loss Disco’s)
- Followed model similar to Delhi model with few exception
- Existing asset were not valued at business valuation rather Government has increased its valuation
- No transition support were included in the model so tariff has increased from 8 Naira to 24 Naira
- Adequate capital expenditure for network improvement were not included in the tariff model
- Bids were called in form of AT&C loss however in the midway all the collection losses has been passed on to the DISCOM by NERC

Turkey (Moderate loss Disco about 7-15 %)
- Invited bids based on the highest quote on the asset value
- Available report suggest that all the investor are struggling with the business

*Profit maximization can not be the single motto of the Government when inviting private players for transforming power distribution business which is public service in nature*
World Wide experience suggests that credit worthy off taker reduces the cost of power as the developer discount associated payment risks

Our Indian experience suggest that due to our strong financial condition we have been always able to get a good deal with Generators when compare to other loss making DISCOM. If power distribution become financially sustainable, there would be various Generation company who will set up plant.

Quality Power Supply: TPDDL used state-of-the-art equipment for Automatic Voltage Regulation within its network. Due to quality power supply, use of accessories like Automatic Voltage Stabilizer had been stopped, resulting in saving of cost by the consumers apart from polluting source of Power such as DG Sets

Development of Industry & Commercial Centre: Due to Economic & Reliable power supply & supporting Eco System TPDDL, area is witnessing major thrust of industrial & commercial development compare to other areas of Delhi.

Establishment of Ecosystem for development: With uninterrupted supply of quality & cost effective power TPDDL is able to develop the ecosystem for further socio economic development in the License Area of operation.
Modernization & Technology Adaption

Power distribution sector has been mostly been neglected by developing countries.

As per reports well performing Power sector in Ghana can add 1.5% to Ghana’s GDP.

VALCO (only 1 in 5 lines operating) not operating to its full capacity just because adequate power is not made available.

Modernization required to meet the goals as prescribed by Millennium Challenge Development by UN (access to electricity, increasing quality of life, alleviation of poverty etc.)

Technology Adaption – key to success
Taking Care of Bottom of the Pyramid

223 JJ clusters* across North and West Delhi
70% JJ clusters not provided toilets
55% don’t get regular water supply
83% don’t have basic infrastructure

"We’ve spent 25-30 years in this slum cluster. Where is the housing they promised us? We live here in filthy conditions with mosquitoes and flies. How are we to feed our families when we can’t afford to buy vegetables and milk? We are fed up."

- Vimla, quoted by Firstpost

Innovative Use of CSR—key to success
Taking Care of Bottom of the Pyramid

Distribution Business require long term commitment and as an investor there are several mid course correction in our strategy based on day to day learning’s.

Free Medicine – interaction with the society

Free Medicine- Only for those make regular payment

Life insurance scheme- Premium paid by TPDDL

Adult Literacy, Drug De-addiction: Caring for the society

Beautician Course, Electrician Course: Increasing income of the household

Appointment of Brand Ambassador: Inculcating a sense of pride
Recognized amongst
- India's Best Companies
  To Work For, 2013 (Top 50)
- 2nd Among Energy, Oil & Gas Sector

**Management Audit** conducted through a reputed external agency to gauge the expectations of the inherited employees.

**Organization Structure** defined, with clear Manpower Planning for each department.

**Voluntary Separation Scheme** introduced—towards right sizing the organization.

**Induction of New Talent** – ETs & MTs as catalysts for the Change Management.

**Set up of Vigilance & Internal Audit groups** for institutionalizing organizational discipline.

**Institution of CENPEID** – State of the Art Training Institute

Employee Engagement Indexes and Employee Satisfaction Survey conducted on regular basis
✓ Addressing Regulatory issues before-hand was one of the key success factor for the Delhi Model

✓ Involvement & Support of the Government especially in the initial phase was helpful for the transformation

✓ High Investment in the network infrastructure is essential for improving reliability.

✓ Economically viable tariff level is essential to bring in new investment

✓ Buy in all the stakeholders and clarity on their roles is the stepping stone of successful reform process

✓ Presence of established players from similar Socio- Economic condition prove to be successful in the reform process.

✓ Clarity on the objective of the reform process & long term goal was critical success factor.
Let’s make a difference

Smart Green Life

More Convenient
More Comfort
Healthier

For further information, if any

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Ghana PPP Workshop
Financing Mechanisms and Strategies

Samuel N.S. Botchway, Executive VP, Business Development, Stanbic Bank Ghana Limited

November 2015
## Contents

<table>
<thead>
<tr>
<th>Sections</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stanbic’s Project Finance Credentials</td>
<td>2</td>
</tr>
<tr>
<td>2. Overview of Project Finance</td>
<td>6</td>
</tr>
<tr>
<td>3. Sources of Funding</td>
<td>12</td>
</tr>
<tr>
<td>4. Key Risks and Mitigants</td>
<td>16</td>
</tr>
</tbody>
</table>
Section 1

Stanbic/Standard Bank’s Project Finance Credentials
## Credentials of Standard Bank

### Recognition/Awards

<table>
<thead>
<tr>
<th>1</th>
<th>Market leading Project Finance house and Investment Bank</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Largest African bank by asset size with the largest balance sheet and a network of offices throughout Africa</td>
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<td></td>
<td>Unrivalled track record of power, infrastructure and natural resources transactions in Africa</td>
</tr>
<tr>
<td></td>
<td>Best Investment Bank, Debt House, Equity House and Project Finance House in Africa in 2013/14</td>
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<td></td>
<td>Consistently led the African Syndicated Loan league table</td>
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<table>
<thead>
<tr>
<th>2</th>
<th>Unique African Power and Infrastructure Finance expertise</th>
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<tr>
<td></td>
<td>Dedicated team of experts focused on Power &amp; Infrastructure transactions.</td>
</tr>
<tr>
<td></td>
<td>Understanding of and financing experience across IPP financings in Africa</td>
</tr>
<tr>
<td></td>
<td>Extensive know-how in the African context through our local on the ground presence and active engagement with the relevant stakeholders</td>
</tr>
<tr>
<td></td>
<td>Ability to provide structuring and financing services to large IPP projects in Africa</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3</th>
<th>Leading Investment Banking house in Ghana</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Commenced investment banking operations in 2007</td>
</tr>
<tr>
<td></td>
<td>Stanbic Ghana voted ‘Best Investment Bank’ in Ghana in 2013 and 2015</td>
</tr>
<tr>
<td></td>
<td>Experienced Investment Banking team on the ground</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4</th>
<th>Exceptional distribution capability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strong relationships with DFIs and the Bank has tested structures with these financial institutions</td>
</tr>
<tr>
<td></td>
<td>Ability to underwrite and distribute ECA solutions</td>
</tr>
<tr>
<td></td>
<td>Strong track record in distributing PF deals across Africa</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5</th>
<th>Exceptional distribution capability to China</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strategic relationship with ICBC</td>
</tr>
<tr>
<td></td>
<td>Network and execution experience with key financial institutions such as Sinosure</td>
</tr>
<tr>
<td></td>
<td>Standard Bank’s Beijing based Debt Advisory team provides a unique interface with Chinese investors</td>
</tr>
</tbody>
</table>
Key points

Standard Bank tops the Africa MLA (Mandated Lead Arranger) tables demonstrating our credentials and capability as a Lead Arranger.

### Equity Capital Markets
- Equities Deal of the Year (2013)
- Best Equity House (2013)

**Africa Book Runner League Table 2012 – 2014 (YTD)**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Lead manager</th>
<th>Value (US$m)</th>
<th>Deal count</th>
<th>% Mkt Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Standard Bank</td>
<td>3,897</td>
<td>24</td>
<td>18%</td>
</tr>
<tr>
<td>2</td>
<td>UBS</td>
<td>3,686</td>
<td>15</td>
<td>17%</td>
</tr>
<tr>
<td>3</td>
<td>Citi</td>
<td>3,602</td>
<td>7</td>
<td>16%</td>
</tr>
<tr>
<td>4</td>
<td>BAML</td>
<td>2,564</td>
<td>8</td>
<td>12%</td>
</tr>
<tr>
<td>5</td>
<td>RBC Capital Markets</td>
<td>2,553</td>
<td>16</td>
<td>12%</td>
</tr>
<tr>
<td>6</td>
<td>HSBC</td>
<td>2,406</td>
<td>4</td>
<td>11%</td>
</tr>
<tr>
<td>7</td>
<td>JPMorgan</td>
<td>2,331</td>
<td>7</td>
<td>11%</td>
</tr>
<tr>
<td>8</td>
<td>Deutsche Bank</td>
<td>2,161</td>
<td>6</td>
<td>10%</td>
</tr>
<tr>
<td>9</td>
<td>Credit Suisse</td>
<td>2,024</td>
<td>7</td>
<td>9%</td>
</tr>
<tr>
<td>10</td>
<td>BNP Paribas</td>
<td>1,930</td>
<td>4</td>
<td>9%</td>
</tr>
</tbody>
</table>

### M&A Advisory
- Best M&A Deal in Africa (2013)
- Sub-Saharan Deal of the Year (2013)

**Sub-Saharan Africa M&A League Table 2014 (YTD)**

<table>
<thead>
<tr>
<th>Rank</th>
<th>House</th>
<th>Value (US$m)</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Standard Bank</td>
<td>9,296</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Bank of America Merrill Lynch</td>
<td>8,127</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Citi</td>
<td>8,127</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Deutsche Bank AG</td>
<td>8,127</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Simonis Storm Securities</td>
<td>8,127</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Investec</td>
<td>7,182</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>Java Capital</td>
<td>2,805</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Sasfin Bank Limited</td>
<td>2,805</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Rand Merchant Bank</td>
<td>1,434</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>CIBC World Markets Inc.</td>
<td>1,169</td>
<td>1</td>
</tr>
</tbody>
</table>

### Debt Capital Markets
- Best Corporate Bond in Africa (2013)
- Best Securitization House in Africa (2013)

**Most active arranger of Sub-Saharan African bonds 2014 (YTD)**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Lead manager</th>
<th>Value (US$m)</th>
<th>Deal count</th>
<th>% Mkt Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Standard Bank</td>
<td>1,892.02</td>
<td>44</td>
<td>22.4</td>
</tr>
<tr>
<td>2</td>
<td>Firstrand Bank Ltd</td>
<td>1,787.49</td>
<td>67</td>
<td>21.2</td>
</tr>
<tr>
<td>3</td>
<td>Barclays</td>
<td>1,127.29</td>
<td>39</td>
<td>13.4</td>
</tr>
<tr>
<td>4</td>
<td>Nedbank Capital</td>
<td>949.96</td>
<td>18</td>
<td>11.3</td>
</tr>
<tr>
<td>5</td>
<td>RBC Capital Markets</td>
<td>624.8</td>
<td>19</td>
<td>7.4</td>
</tr>
<tr>
<td>6</td>
<td>Eascom Holdings Ltd</td>
<td>623.33</td>
<td>21</td>
<td>6.2</td>
</tr>
<tr>
<td>7</td>
<td>JP Morgan</td>
<td>383.12</td>
<td>18</td>
<td>4.5</td>
</tr>
<tr>
<td>8</td>
<td>Investec PLC</td>
<td>378.98</td>
<td>14</td>
<td>4.5</td>
</tr>
<tr>
<td>9</td>
<td>TD Securities</td>
<td>143.85</td>
<td>8</td>
<td>1.7</td>
</tr>
<tr>
<td>10</td>
<td>Citi</td>
<td>126.74</td>
<td>7</td>
<td>1.5</td>
</tr>
</tbody>
</table>

### Debt Finance
- Best Syndicated Loan House in Africa (2013, 2014)
- Best Debt House in Africa (2013)

**Africa MLA League Table 2012 – 2014 (YTD)**

<table>
<thead>
<tr>
<th>Rank</th>
<th>MLA</th>
<th>Value (US$m)</th>
<th>Deal Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Standard Bank</td>
<td>5,342</td>
<td>42</td>
</tr>
<tr>
<td>2</td>
<td>Barclays</td>
<td>4,859</td>
<td>36</td>
</tr>
<tr>
<td>3</td>
<td>Standard Chartered Bank</td>
<td>4,666</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>BNP Paribas SA</td>
<td>3,201</td>
<td>21</td>
</tr>
<tr>
<td>5</td>
<td>Firstrand Bank Ltd</td>
<td>3,176</td>
<td>29</td>
</tr>
<tr>
<td>6</td>
<td>Citi</td>
<td>2,573</td>
<td>24</td>
</tr>
<tr>
<td>7</td>
<td>Nedbank Capital</td>
<td>2,086</td>
<td>16</td>
</tr>
<tr>
<td>8</td>
<td>HSBC Bank PLC</td>
<td>2,047</td>
<td>19</td>
</tr>
<tr>
<td>9</td>
<td>Societe Generale</td>
<td>1,867</td>
<td>14</td>
</tr>
<tr>
<td>10</td>
<td>Ecobank Transnational Inc</td>
<td>1,697</td>
<td>11</td>
</tr>
</tbody>
</table>
Local Presence and Project Finance Experience in Ghana

Key points

Standard Bank has vast experience in power and infrastructure structuring and arranging across Africa

- Standard Bank continues to offer a full range of investment banking services in Ghana
- Stanbic Ghana was recently awarded Best Investment Bank in Ghana by EMEA Finance
- Some of the infrastructure related projects financed by the bank in Ghana are highlighted below

Standard Bank’s experience in West Africa and specifically Ghana

- Standard Bank has vast experience in power and infrastructure structuring and arranging across Africa
- Stanbic Ghana was recently awarded Best Investment Bank in Ghana by EMEA Finance
- Some of the infrastructure related projects financed by the bank in Ghana are highlighted below

---

Cenpower

Cenpower Ghana

2014
USD 893 million

340MW Gas and Oil Fired
Combined Cycle Generation Power Project /Co - Mandated
Lead Arranger and Financial Advisor

BEFESA

2012
US$ 88m

Project Finance
Water Desalination Facility
Sole Arranger/Lender

ghanaairports

2012
US$ 20m

Term Debt Facility
Arranger/Lender

MPS Tema

2009
US$ 55m

Project Finance Facility
Ghana
Arranger / Underwriter

---

Standard Bank
Section 2
Overview of Project Finance
Project Finance – The Basics

Project Finance also known as limited-recourse or non-recourse financing

- Mechanism used to finance most large, infrastructure, energy, industrial and public service projects
- Funded through a single purpose SPV
- Lenders primarily look to the cash flows of the project as the repayment source
- Typically, Lenders only have recourse to the assets of the project

- Ability to raise large amounts of capital
- Limited recourse to sponsors
- Set-up costs
- Project-specific risk assessment and management

Project financing is a loan structure that relies primarily on the project’s cash flow for repayment, with the project’s assets, rights, and interests held as secondary security or collateral.
Project Finance Structure

Basic Structure of a typical power project

- **Sponsor Equity**
- **Passive Equity**
- **EPC Contractor**
- **O&M Contractor**
- **Off-taker**
- **Performance Guarantees**
- **Debt** (60% – 80%)
- **Subordinated Debt**

**Equity (20-40%)**
Commercial Structure for a Power Project – Legal Documents

**Borrower Documents**
- Shareholders
  - Shareholders’ Agreement
- O&M
  - O&M Agreement
- EPC
  - EPC Contract
- Off-taker
  - PPA
- Fuel Supplier
  - Fuel Supply and Storage Agreements

**Lender Documents**
- Lenders
  - Finance Agreement
- Government
  - Government Consent and Support Agreement
- Direct Agreement

**IPP**
- IPP
# Major Agreements

<table>
<thead>
<tr>
<th>Agreement</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shareholders Agreement</td>
<td>- This governs the relationship between the shareholders of the SPV. Usually covers: Equity contributions, Voting rights, Dividends, Management of the SPV, Disposal and pre-emption rights</td>
</tr>
</tbody>
</table>
| EPC Contract                     | - Provides for the obligation of the contractor to build and deliver the project facilities on a turnkey basis, at a certain pre-determined fixed price, by a certain date, in accordance with certain specifications, and with certain performance warrants. Covers:  
  - Description of the project,  
  - Price,  
  - Payment terms,  
  - Completion date,  
  - Completion / Performance guarantee and LDs,  
  - Cap under LDs                                                                                                                         |
| Power Purchase Agreement         | - An off-take agreement is between the project company and the off-taker. Indicates the mechanism of price and volume, tariff escalations etc and nature (e.g. Take or pay, or Take-and-pay contracts or Pass Through) |
| Government Consent and Support Agreement | - The GCSA is entered into between the GoG and the IPP. It mirrors the tenor of the PPA and guarantees the obligations of the off-taker. Also provides that the IPP will be able to convert GHS to USD for its operations and debt service payments. In Ghana, it needs to be approved by Parliament and signed by the Ministry of Finance |
| Supply Agreement                 | - A supply agreement is between the project company and the supplier of the required feedstock / fuel. It’s usually structured to match the general terms of the off-take contract such as the length of the PPA. |
### Major Agreements

<table>
<thead>
<tr>
<th>Operation and Maintenance</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The agreement is between the Project Company and the Operator. Usually covers:</td>
</tr>
<tr>
<td></td>
<td>- Definition of the service,</td>
</tr>
<tr>
<td></td>
<td>- Operator responsibility,</td>
</tr>
<tr>
<td></td>
<td>- Provision regarding the services rendered,</td>
</tr>
<tr>
<td></td>
<td>- Liquidated damages,</td>
</tr>
<tr>
<td></td>
<td>- Fee provisions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Loan Agreement</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A loan agreement is between the project company and the lenders. It details the terms under which the loan can be drawn and repaid, and contains the usual provisions found in a corporate loan agreement. It also contains the additional clauses to cover specific requirements of the project and project documents</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inter-creditor Agreements</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This governs the common terms and relationships of Lenders in respect of the borrower’s obligations. Typically covers:</td>
</tr>
<tr>
<td></td>
<td>Common terms, Order of drawdown, Cashflow waterfall, Limitation on ability of creditors to vary their rights, Voting rights, Notification of defaults, Order of applying the proceeds of debt recovery</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Direct Agreement</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contract between lenders and Counterparty to the contract be established which sets out the circumstances in which the financiers may &quot;step in&quot; under the project contracts in order to remedy any default. Incorporates Clauses on, Acknowledgement of security, Step-in rights and extended periods, Processes for appointing a Receiver, Sale of assets</td>
</tr>
</tbody>
</table>
Section 3
Sources of Financing
Different Stages Require varied Financing Solutions

Concept development
- Sponsor Equity Investments

Secure Permits, Leases and Licenses

Pre-Feasibility Study
- Mezzanine/Convertible Bond
- Grants
- Other equity investors

Bankable Feasibility Study
- Project Finance
- Private Equity and others

Construction
- Corporate Bond

Generation
- Project Revenues

Shareholder / Bridge Loan

Dialogue with prospects is initiated as early as possible
## Sources of Equity for Project Finance Transactions

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Purpose</th>
<th>Tenor</th>
<th>Key Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equity Finance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor Finance</td>
<td>Provided by project sponsor usually at the early stages of the project</td>
<td>Project life</td>
<td>✓ Allows for project management flexibility</td>
</tr>
<tr>
<td>Grants</td>
<td>Provided mainly to fund feasibility studies</td>
<td>Project Life</td>
<td>× Limited in size</td>
</tr>
<tr>
<td>Equity by other Project Participants</td>
<td>Usually to secure the role or to benefit from upside</td>
<td>Project Life</td>
<td>× Usually a minority stake</td>
</tr>
<tr>
<td>Private Equity Funding</td>
<td>Permanent medium -term equity finance with exit strategy over time</td>
<td>Over 5-10 years</td>
<td>✓ Possibility of buy-out</td>
</tr>
<tr>
<td>DFI Equity Funding</td>
<td>Provides equity financing for projects but usually on small size</td>
<td>Project life</td>
<td>× Long due diligence and approval process</td>
</tr>
</tbody>
</table>
### Debt Funding Instruments

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Purpose</th>
<th>Tenor</th>
<th>Key Considerations</th>
</tr>
</thead>
</table>
| **Commercial Bank Term Loan** | ▪ Permanent debt capital                                                 | ▪ Up to 7 years without ECA / PRI | ✓ May be guaranteed if underwritten  
                                                                  |                                                                                       |                             | ✓ Does not result in additional public scrutiny |
|                         |                                                                        |                            | ✓ Can be structured to meet projected cash flow                                     |
|                         |                                                                        |                            | ✓ Flexibility (i.e., draw downs and prepayments)                                    |
|                         |                                                                        |                            | ✗ Usually more expensive                                                             |
|                         |                                                                        |                            | ✗ Imposes compliance covenants                                                      |
|                         |                                                                        |                            | ✗ Tenor restrictions could impact liquidity                                         |
| **Project Finance**     |                                                                        |                            |                                                                                   |
| **DFI Funding**         | ▪ Permanent debt capital used for large infrastructure projects        | ▪ Over 10 years             | ✓ Involvement mitigates political risk                                              |
|                         |                                                                        |                            | ✓ Longer tenors                                                                      |
|                         |                                                                        |                            | ✓ Relatively cheaper than commercial debt                                           |
|                         |                                                                        |                            | ✗ Longer approval process                                                           |
| **ECA Funding**         | ▪ Permanent debt capital used for large infrastructure projects        | ▪ Over 10 years             | ✓ Mitigates political risks                                                        |
|                         |                                                                        |                            | ✓ Banks can lend at cheaper rate and longer tenors                                  |
|                         |                                                                        |                            | ✗ Increased complexity                                                               |
| **Debt capital markets**|                                                                        |                            |                                                                                   |
| **Commercial Paper**    | ▪ Used to finance short term funding requirements and working capital  | ▪ Up to 270 days            | ✓ Potentially attractive pricing                                                    |
|                         |                                                                        |                            | ✗ Pricing and volume subject to prevailing market conditions and credit rating       |
| **Bond**                | ▪ Used for longer term funding requirements                             | ▪ Typically between 8-15 years | ✓ Typically offers better pricing                                                  |
|                         |                                                                        |                            | ✓ Bullet profile and tenor allows for flexible debt servicing                       |
|                         |                                                                        |                            | ✓ Larger investor base                                                              |
|                         |                                                                        |                            | ✗ Pricing and volume subject to prevailing market conditions and credit rating       |
|                         |                                                                        |                            | ✗ Lack of flexibility                                                                |
Section 4
Key Risks and Mitigants
Why Project Finance is risky for Banks

- Lenders called upon to extend large amount of debt funding relative to equity contribution at financial close in a:
  - Newly formed Special Purpose Vehicle (SPV)
  - Thinly capitalized
  - With little or no assets
  - Core assets constitutes an ambitious business plan, licenses and a myriad of contracts

- Failure to identify and mitigate the risks could result in:
  - Delays in the project construction and operation schedule
  - Need to revise business plan and could lead to additional costs
  - Inadequate cash flow to meet operational costs, repay loan and pay dividends
  - Abandonment of the project
Dissecting the risks for each party

- Lenders and investors would assess all of the risks associated with a project and agree with the project sponsors on appropriate means to manage or mitigate those risks. Risk may be:
  - Retained by Sponsors
  - Retained by Counterparties
  - Passed onto 3rd parties (insurers)

- Conventional project risks can be divided into three phases: planning, construction and operation risks

<table>
<thead>
<tr>
<th>Planning Phase</th>
<th>Construction Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feasibility risk</td>
<td>Time over-run risk</td>
</tr>
<tr>
<td>Permit/Licence risk</td>
<td>Capital cost over-run risk</td>
</tr>
<tr>
<td>Environmental and Social risk</td>
<td>Environmental and Social risk</td>
</tr>
</tbody>
</table>

- High risk capital (equity or grants)
- High to moderate risk capital (debt and equity)
- Revenue
## Key Risks and Mitigants

<table>
<thead>
<tr>
<th>Risks</th>
<th>Description</th>
<th>Mitigation</th>
</tr>
</thead>
</table>
| **Political, legal and regulatory risks** | - Project country not stable for continued operations  
- Including: risk of war, revolution, terrorism, civil unrest, expropriation, nationalisation,  
- Changes in legal regime and inability to enforce contracts  
- Exchange controls | - Planning stage: screen countries  
- Political Risk Insurance (PRI)  
- Guarantees from host government,  
- Use export credit agencies to back PF Loans and involve DFIs  
- IFC A/B loan Structures |
| **Time and cost over-run risks** | - Risk associated with project not being commissioned on schedule or within budget | - Engage competent Contractor with expertise and financial capability  
- Contract should be turnkey and fixed-price contracts  
- EPC contract for works and equipment to include penalties (LDs) and bonuses  
- Contingency Funds usually 5% to 10% |
| **Off-taker risk**            | - Off-taker fails to offtake the product / service and doesn't make revenue payments | - Off-taker should have a good rating, experience and financial capability  
- Off-taker should have adequate performance guarantees backed by LCs  
- Consider mitigants to provide support for non-honouring by a counterparty (eg. GSCA / PRGs)  
- Create Debt Service Reserve accounts |
## Potential Risks and Mitigants

<table>
<thead>
<tr>
<th>Risks</th>
<th>Description</th>
<th>Mitigation</th>
</tr>
</thead>
</table>
| **Technology risk** | - Potential risk that equipment installed does not perform to expected specifications; engineering solution is too complex | - EPC contractor and equipment supplier to provide warranties.  
- Retentions of part of contract price pending satisfactory completion.  
- Technology / Business Risk insurance |
| **Market risk** | - Lower demand or increased supply from competitors or substitutes  
- Price fluctuations for the outputs of the project | - Enter into long-term purchase agreements  
- Take-or-pay fixed-price contracts |
| **Supply risk** | - Supplies of key inputs to the project cannot be maintained or there is an increase in price | - Select competent supplier with adequate financial backing with alternate sources of supply  
- Enter into long-term supply contracts fixing some or all of the volume and/ or price of key inputs  
- Supplier to indemnify company against excess cost or revenue losses  
- Consider availability of alternative/ backup supply |
<table>
<thead>
<tr>
<th>Risks</th>
<th>Description</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial risk</strong></td>
<td>Adverse interest rates movements</td>
<td>Match currencies for revenues, supply and debt</td>
</tr>
<tr>
<td></td>
<td>FX unavailability and fluctuating exchange rates</td>
<td>Consider financial instruments: interest rate or currency hedges</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Take PRI for currency convertibility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off-shore Reserve Account</td>
</tr>
<tr>
<td><strong>Operating risk</strong></td>
<td>Project as a whole does not perform to expectations</td>
<td>Use a competent, experienced O&amp;M operator with adequate resources.</td>
</tr>
<tr>
<td></td>
<td>Cost of operation and maintenance is higher than expected</td>
<td>Agree price and terms in the O&amp;M contract</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Insurance against property damage, third party risk and business interruption</td>
</tr>
<tr>
<td><strong>Environmental and social risks</strong></td>
<td>Project impacts negatively on the environment</td>
<td>Ensure that all potential environmental and social impacts are identified, mitigated/ managed and monitored during construction</td>
</tr>
</tbody>
</table>
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Advice to Government on IPPs

- Fundamental Legal framework underlying PPP needs to be clearly clarified
- Government must be prepared to provide enough equity funding where viability gaps exist
- Projects should be evaluated on business grounds
- Government could use dividend accrued to embark on social impact mitigation programs
- Government needs to provide enough comfort to IPPs in terms of guaranteed tariffs, investment recovery guarantee, PRI etc

Why “Expensive” commercial loans may supersede “cheap” governmental lending

- Government lending may be unduly bureaucratic
- Government lending may have stringent socialist conditions (which do not necessarily make business sense)
- Commercial lending tends to come with project financing and execution advisory
Regional Case Studies of Effective PPP

Case Studies from Southern African Power Pool

Presentation by Eng. Alison Chikova
SAPP COORDINATION CENTRE

Accra, Ghana
16 -17 November 2015
SAPP KEY FACTS

- 12 Countries
- 280 Million people
- Installed Generation Capacity - 62 GW
- Consumption - 400TWh
Forms of PPP

- **Technical assistance:** The private entity advises the government on how to provide more efficient operations in a sector.

- **Management contract:** The private sector organization manages the government operation or entity, but provides very little or no investment.

- **Lease arrangements:** The private sector upgrades and pays for the use of a system, while the public sector pays operational costs.

- **Concession contracts:** The private sector organization is granted a concession to perform a public sector service within the country, typically resulting in a significant private sector investment for a specific period of ownership; however, the asset to which the service is provided is typically returned to the public sector.
Background about MOTRACO Transmission Company

• In March 1998 the Government of Mozambique passed a Decree authorising the MOTRACO Project, which was granted certain fiscal benefits.

• Concession Contracts entered between the 3 Government (Mozambique, RSA, Swaziland) and MOTRACO to:
  - Construct, own, operate and maintain Transmission electrical assets,
  - Import and sell energy directly to the Mozal Smelter,
  - Wheel energy on behalf of EDM, SEB and Eskom
  - Establish a private fiber optic cable network ensure the reliability of electrical supplies to the aluminum smelter.
Timeline - MOTRACO SPV

- **IGMOU:** Signed by GRM & GRSA Jan 1997 – G&T projects
- **Head of Agreement:** Signed by govts March 1997 - smelter
- **Tariff & Wheeling Agreement IUMOU:** June 1997
- **SPV:** MOTRACO Transmission Co registered in Mozambique in 1998.
- **Concession Contracts:** signed MOTRACO and Governments of RSA, Swaziland, Mozambique.
FINANCING

- Company capitalised on 75:25 debt equity ratio
- The authorised share capital of MOTRACO is US$39,500,600
- Debt financing for Phase I was UD$82m
- Debt financing for Phase II was US$25 m
- Loan Agreements between MOTRACO and lenders.
- Phase 1 loans are guaranteed by Eskom Holdings (Power utility in South Africa).
- Phase 2 loans project financed – the first project finance transaction in the Southern African Region in the energy industry in 1998.
SOUTHERN AFRICAN POWER POOL

SPECIAL PURPOSE VEHICLE COMPANY

UTILITIES: EDM, ESKOM, SEB

Equity, 39.5MUSD

Debt/Equity-75/25

Debt, 107MUSD

MOTRACO

(Outsourcing strategy)

GRM, GRSA, GSW

Eskom, 950MW +

Eskom (O&M)

EIB, JBIC, SBSA

(Outsourced by Eskom)

Eskom, xMW (loop flow)

SEB, 175MW

EDM, 175MW + 250MW

Mozal, 950MW +650MW

95% of total revenue

Telecommunications

2x280 km 400 kV lines
3x500 MVA transformers
24 core fibre optic cables

Debt, 107MUSD

Other

GRM, GRSA, GSW

Eskom, 950MW +

Eskom (O&M)

EIB, JBIC, SBSA

(Outsourced by Eskom)
330 kV Transmission Integration
A Special Purpose Vehicle, **ZIZABONA** is to be created

**ZIZABONA** manages the project

**PPP structure is being considered**
ZIZABONA Project Structure

- **Financing Agreements**
  - Senior loan facilities

- **Shareholders Agreement**
  - Shareholder equity funding

- **Consents and Licences**
  - Rights to development

- **EPC Contract**

- **ZIZABONA SPV**

- **Wheeling Agreements**

- **O & M and Connection Agreements**

- **SAPP & ZIZABONA Governing Agreements**

- **Asset Transfer / Use of Assets Agreements**

- **Inter-Governmental MoU (IGMoU)**

- **Inter-Utility MoU (IUMoU)**

- **Joint Development Agreement (JDA)**
Anticipated ZIZABONA SPV Contract Structure

- NamPower
- ZESA
- ZesCo
- BPC
- Other

Shareholders Agreement

- Lenders
- Financing Agreement
- ZIZABONA SPV
- Wheeling Agreement

- EPC CONTRACT
- O&M CONTRACT(s)

- EPC-CONTRACTOR
- Utilities involved (NamPower, ZESA, ZESCO, BPC)
- Utilities involved (BPC, ZESCO, ZESA, NamPower)

Purchasers
- NamPower

PPA

SELLER (ZESA/ZESCO)
Global Lessons

- Private sponsors and financiers more than willing to invest in renewable energy if the procurement process is well designed and transparent.
- A clear procurement framework should be in place to enable private sector developers to participate.
- Transactions have reasonable levels of profitability and key risks are mitigated by government.
- Renewable Energy costs are falling and becoming more competitive.
- Effective communication with all stakeholders is key especially with the government and private sector.
- Renewable Energy development uplifts the countries’ economic development.
ZIZABONA Financing Options

- ZIZABONA was previously conceived based on availability of “typical” limited recourse project finance.

- **Third Party Force Majeure and Termination (PPA)**
  - ZIZABONA and lenders have no direct contractual involvement with the PPA.
  - Event of Default by either party under the PPA leading to termination leads to cessation of ZIZABONA revenues and ultimately termination of the loan agreement.

Two financing Options were looked at

1. Balance Sheet financing by the Sponsors
2. Project Finance involving enhanced recourse to the Sponsors
Balance Sheet Financing

**Advantages**

- No direct need for lenders to „sanction“ the structure or commercial provisions of the project.
- Wheeling and other agreements can be significantly less elaborate and easier and quicker to finalize.
- No need to seek special Government approval of Enhanced Sponsor recourse obligations.

**Disadvantages**

- ZIZABONA project risks not shared with project lenders
- Balance sheet financing may well require Board, Government or Parliamentary approval.
- More time maybe needed for individual Sponsors to obtain corporate funding.
SOUTHERN AFRICAN POWER POOL

Enhanced Recourse to Sponsors

**Advantages**
- ZIZABONA project risks shared with project lenders.
- Sponsors need to finance only equity portion of the investment costs.

**Disadvantages**
- ZIZABONA risk issues beyond lenders limits in a typical limited recourse project financing context. Lenders will be cautious, may take considerable time to reach financial close even with Enhanced Sponsor Recourse.
- The financing process likely to be complex.
- ZIZABONA concept breaks new ground and there is no known, comparable precedent. It involves significant „new“ risk apportioning challenges (including third party risk).
- Wheeling and other agreements significantly more elaborate and complex and will take longer to finalize.
Recommendation

Balance Sheet Financing vs Enhanced Recourse to Sponsors
UPDATE ON TRANSMISSION PROJECTS

2015: 2nd DRC – Zambia 220 kV

2018: ZIZABONA - 330 kV
2018: Mozambique – Malawi 400 kV
2018: Zambia-Tanzania-Kenya 400 kV
2018: Morupule – Maun 400 kV
2020: MOZISA 400 kV
2020: Botswana-RSA 400 kV
2020: Namibia – Angola 400 kV
2020: Orapa – Pandamatenga 400 kV
2021: Mozambique STE – HVDC/AC
2024: Grand Inga Transmission– HVDC/AC

Map Not to Scale: For illustration purposes only
Lessons Learnt

- The shareholders are state owned companies, where in some instances, separation between the utility and state is not clearly defined.

- Good corporate governance structures are important in order to remove conflicts of interest.

- Shareholder representatives should be duly mandated.
Lessons Learnt

- Private - Public partnerships can work as the relationships between MOZAL, MOTRACO and the Governments of South Africa, Swaziland and Mozambique has demonstrated.

- The success is dependent on a clear vision including appropriate risk sharing.
Success Factors

- Government and Utility Commitment
- Easy project structure and risk allocation.
- Committed Off-taker
- Benefits to all stakeholders.
- Viable Business Case
- Cost reflective tariffs needed to attract private capital
Renewable Energy Feed In Tariffs
South African Example

- REFIT Policy approved by the Regulator in 2009
- Feed in Tariff
  - Ways of encouraging growth in renewable energy
  - Set a fixed price for renewable power
  - Guaranteed long term off take
  - Experience shows FIT highly successful for RE generation and job creation
- Tariffs were designed to cover generation costs plus a real return on equity of 17% and indexed for inflation
- REFIT in 2009:
  - 15.6 USc/kWh for wind
  - 26 USc/kWh for concentrated solar (troughs with 6 hours storage)
  - 49 USc/kWh for photovoltaic
- REFIT offered tariff bands and caps. This was a good incentive for the private sector to make money
- This led to oversubscribing for the private sector to participate
Renewable Energy Feed In Tariffs
South African Example

- **In March 2011:**
  - Regulator introduced a new level of uncertainty calling for a lower REFIT (exchange rate & cost of debt changes)
  - 11.7 USc /kWh for wind - 25 % lower
  - 22.6 USc /kWh for concentrated solar – 13% lower
  - 28.9 USc /kWh for photovoltaic - 41 % lower

- Legal Opinion concluded that Feed in Tariffs amounted to non-competitive procurement (prohibited)

- The move from FIT to Competitive Tenders initiated.

- Introduced the Renewable Energy Independent Power Producer Procurement Program (REIPPPP)
Renewable Energy Bidding Process

- 3 Rounds of bidding have been undertaken
- Round 1 resulted in low prices as compared to the REFIT
- Round 2 - Prices were more competitive and bidders offered better local content terms
- Round 3 – Prices fell further

<table>
<thead>
<tr>
<th></th>
<th>Bids Received</th>
<th>Bids Awarded</th>
<th>Capacity Offered, MW</th>
<th>Capacity Awarded, MW</th>
<th>Total Investment, USD billion</th>
<th>Total Investment, USD/kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1</td>
<td>53</td>
<td>28</td>
<td>3625</td>
<td>1416</td>
<td>6.0</td>
<td>4,237.29</td>
</tr>
<tr>
<td>Round 2</td>
<td>79</td>
<td>19</td>
<td>1275</td>
<td>1044</td>
<td>3.5</td>
<td>3,352.49</td>
</tr>
<tr>
<td>Round 3</td>
<td>93</td>
<td>17</td>
<td>1473</td>
<td>1456</td>
<td>4.5</td>
<td>3,090.66</td>
</tr>
<tr>
<td>TOTAL</td>
<td>225</td>
<td>64</td>
<td>6373</td>
<td>3916</td>
<td>14.0</td>
<td></td>
</tr>
</tbody>
</table>

- The most common financing structure has been project finance, although a third of the projects in third round used corporate finance arrangements
- Majority of debt was from commercial banks and Development Finance Institutions
Key Success Factors and Challenges

Program Management Factors

- Strong Political Support
- Institutional Setting strong
- The Program Management Team highly involved
- Program resource were adequate
- Quality of transaction advice (Legal and Financial) was good

Program Management shortcomings also identified – Program Management costs high since government had to hire external advisors
Key Success Factors and Challenges

**Program Design Factors**
- Accelerated roll out of new generation capacity
- Program size was the largest IPP program in Africa
- Potential project profitability – make equity close to 17%
- The shift for FIT to competitive tenders helped reduce tariffs
- Multiple bidding round – built confidence among operators and investors – increase levels of competition
- Sovereign guarantees – backed the power utility in the Implementation Agreements from the RE Projects

**Market Factors**
- Global supply and demand of renewable energy
- Donor and Multilateral Development Bank support for renewables
- Banking sector experience in project finance helped
- Quality and Transparency were not undermined. Experienced International advisors were used
Key Success Factors and Challenges

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- Effective communication with all stakeholders is key especially with the government and private sector.
- Renewable Energy development uplifts the countries’ economic development.
Effective Private Public Partnership in Africa

Denis Le Maoût, Veolia
A complete mastery of the water/waste/energy cycle

SUSTAINABLE DEVELOPMENT AND CUSTOMERS COMPETITIVENESS

WATER
- 3,338 wastewater treatment plants managed
- 4,455 water production plants managed
- 59.6 million people connected to wastewater systems
- 96 million people supplied with water

ENERGY
- 52 million MWh produced
- 529 heating and cooling networks managed

WASTE
- 2.4 million collective housing units managed
- 42.8 million people provided with collection services on behalf of municipalities
- 31.3 million tons of waste recovered as materials or energy
- 730,000 business customers
- 655 waste-processing facilities operated

ÉNERGY
- 1,802 industrial sites managed
Global-local organization serving our customers

- **NORTH AMERICA**
  - €1.7 billion revenue
  - 7,900 employees

- **SOUTH AMERICA**
  - €0.59 billion revenue
  - 11,700 employees

- **WESTERN EUROPE**
  - €10.1 billion revenue
  - 61,400 employees

- **AFRICA MIDDLE EAST**
  - €1 billion revenue
  - 9,700 employees

- **CENTRAL AND EASTERN EUROPE**
  - €2.8 billion revenue
  - 25,800 employees

- **ASIA**
  - €1.1 billion revenue
  - 20,200 employees

- **OCEANIA**
  - €0.96 billion revenue
  - 3,900 employees

- **GLOBAL ENTERPRISES**
  - €3.5 billion revenue
  - 30,600 employees

- **Total**
  - €23.88 billion revenue
  - 179,000 employees on 5 continents
Veolia in Africa

870 million €
REVENUE (Africa activity only)

INTERVENTIONS in 13 Countries (whole Veolia group)

6,536 EMPLOYEES (Africa)

2014 Data
Our strategy of development in Africa

Contribute to the sustainable economic development and social progress of African countries

Secure the financing of projects that enable safe access to essential services - water, waste and energy services

Allow industrial development while meeting international environmental standards
Veolia and the electricity market in Africa

- Given access to energy to more than 1,300,000 customers and 5 million people in Africa in 2014
- Generated €651 million in 2014 from electricity services provided to our customers
- Gained access to new markets (Guinea Conakry)
- Contributed to the modernization of the sector through the adoption of new contractual schemes
- Accelerated the transfer of skills through the management of 4,500 people
- Enhanced the efficiency and reduce the environmental impact of the facilities that we manage
Key indicators: Gabon *(contract started in 1997)*

**Installed Power**
- 438 MW

**Clients**
- 280,639
  - 225,097 non-subsidized connections
  - 54,305 subsidized connections
  - 1,237 MV

**Produced Electricity***
- (in GWh)
  - 2014: 2,172
  - 2013: 2,075

**Sold Electricity**
- (in GWh)
  - 2014: 1,749
  - 2013: 1,645

**Length of Networks**
- 4,746 km
  - Distribution: 4,040
  - Transportation: 706

**Transformer Stations**
- 2,420

**Municipalities served**
- 51
Key indicators: Morocco  *(contract started in 2002)*

- **Installed Power:** 1,213MW
  - REDAL
    - Rabat: 673
    - Tangier: 320
    - Tetouan: 220
    - AMENDIS
- **Clients:** 1,084,564
  - REDAL
    - Rabat: 583,002
    - Tangier: 286,109
    - Tetouan: 215,453
    - AMENDIS
- **Length of Networks:** 12,158 km
  - REDAL
    - Rabat: 673
    - Tangier: 320
    - Tetouan: 220
    - AMENDIS
- **Transformer stations:** 6,204
  - REDAL
    - Rabat: 3,473
    - Tangier: 1,943
    - Tetouan: 788
    - AMENDIS
- **Sold Electricity:** 3,723 (in GWh)
  - REDAL
    - Rabat: 1,997
    - Tangier: 1,199
    - Tetouan: 527
    - AMENDIS
- **Municipalities served**
  - REDAL
    - Rabat and vicinities (wilaya Rabat Salé) + Bouznika and Cherrat.
  - AMENDIS
    - Tangier: 7 Communities
    - Tetouan: 5 Urban Communities
    - 7 Rural Communities
Public Private Partnership (PPP) combines the best elements of public and private sectors for procuring public services.

Partnering with an experienced private partner allows to:
- Better deal with complex technologies (O&M and technical choices)
- Optimize Capex and Opex
- Reduce cost overrun and delays
- Develop an efficient model bringing added-value to the community

Improve efficiency and service quality of utilities:
- In any case, Public Authority remains in charge of the sector’s policy
- Optimization & expansion of service inside predefined tariff levels
- Transfer service provision to a private entity
- Benefits from outside expertise in O&M and service delivery
- Increase accountability of each player (contractual targets, monitoring)
- Various legal schemes to fit with local situation and political options

How PPP can help to develop the electricity market in Africa?
Typical PPP Models to consider

Main “families” of partnership agreements

20 to 35 years

Concession
- Financing of new assets
- Renewal of existing assets
- Technical & commercial operations
- Direct billing

5 to 20 years

Lease (Affermage)
- Renewal of existing assets
- Technical & commercial operations
- Direct billing (mostly)

Delegated management
- Renewal of existing assets
- Technical & commercial operations
- Direct billing (mostly)

4 to 10 years

Performance Management Contract
- Team of specialists (key staff), sometimes with management role
- Diagnosis phase, action plan & deployment of proposed solutions
- Change management
- Targeted levels for KPI to be reached

And even some that are hybrids of different models!
Modality of procuring in Africa

- Tenders are rare on complete services contracts (distribution, billing and cash recovery)
- IPP’s under PPP’s schemes are more popular
- Main risks:

<table>
<thead>
<tr>
<th>Unsolicited tenders</th>
<th>Solicited tenders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key factors of success are often not in place to have a long term successful project</td>
<td>Duration of the whole process and delays</td>
</tr>
<tr>
<td>Company may be chosen but some stakeholders may/can challenge the choice</td>
<td>High costs of transaction</td>
</tr>
<tr>
<td>Legal risk and operational risk if the contract is not balanced</td>
<td></td>
</tr>
</tbody>
</table>
To make PPP projects prime candidate in the energy sector for project financing, investors and operators require:

- A clear legislative framework
- To reach a fair balance between project risks transferred and returns
- An acceptable balance in the degree of control of the local authority over the under laying asset and the PP activities
- Level of investment and cash flows to be secured
- Credit worthiness of the counterpart
- Perform contract reviews in a reasonable timeframe, with an impact on the performance of the contract and its financial equilibrium
Sharing our experience in Morocco
## Main objectives of the contract (electricity)

<table>
<thead>
<tr>
<th>Stakes</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance and put in place the investment program as per the contract</td>
<td>Financial</td>
</tr>
<tr>
<td>Get access to electricity services to the population</td>
<td>Financial / Technical / Social</td>
</tr>
<tr>
<td>Develop women and men</td>
<td>Management / Social</td>
</tr>
<tr>
<td>Knowledge transfer</td>
<td>Technical / Management / Social</td>
</tr>
<tr>
<td>Social progress vector</td>
<td>Management / Social</td>
</tr>
<tr>
<td>Support regions in their development</td>
<td>Financial / Technical / Social</td>
</tr>
<tr>
<td>Increase quality and develop efficiency of the public services</td>
<td>Financial / Technical / Social / Management</td>
</tr>
</tbody>
</table>
Managed Customer relations management
Positive impact on the image > the Operator is delivering a public service, he is a proximity partner
Ability to manage the full life cycle > from construction to operations => BtoBtoC
Training and skills management
Common management of both services and bring optimization
Full network management
Environmental vision of the activities

Our contribution to economic growth and social progress

- **ELECTRICITY:**
  - > 1,000,000 customers
  - > 3,600 GWH per year
- **INVESTMENTS (water & electricity):**
  - 590 millions euros in 12 years
- **A TRAINING CENTER OPENED IN RABAT**
  - 300,000 hours training in health & safety, technical performance and regulation compliance domains
Strong and steady coverage rate increase

Coverage rate evolution - Amendis

Coverage rate evolution - Redal
Aligned with the cities / clients growth
Operational performance matching with the power demand

- Demand (GWH) - Amendis
- Demand (GWH) - Redal
Achieving and maintaining high network efficiency
Positive impact on local economy (ie. Redal)

Total impact for stakeholders:
26,9 billion MAD (2,4 billion €)

Employees (a)
4,3 billion MAD 14,2%

Suppliers & service providers (b)
20,3 billion MAD 66,9%

Tax authority excluding VAT (c)
0,4 billion MAD 1,4%

Banks (d)
1,4 billion MAD 4,7%

Shareholders (e)
0,5 billion MAD 1,6%

Portion dedicated to investments (f):
3,4 billion MAD (314 millions €) 11,2%
PPP key success factors

- All stakeholders benefit from the PPP > win win approach
- **Capacity building in the administration** to have a long term capacity to manage the contract with a private Partner
- **Evolution / increase of Tariffs** must be implemented on time
- **Conditions of the contract must be balanced**
- Reinforcement of the **legal framework**
- Regular **review of the hypothesis / business model** must be included in the contract (clause with specific triggers, for instance)
- **Public sector payment** to secure continuous ability of the operator to invest
Our point of view to go further

- **Trustful** relationship to be developed with the counterpart
- **Flexibility** of the service depending on the needs of the population
- **Structure** project & monitoring to reduce private partner risks
- Launch a **capacity building program** for the public servant in charge at a very early stage
- Put in place a **delegated authority** empowered and autonomous
- Set up an **independent regulatory agency**: to develop a regulatory model and set objectives with operators
- Carefully **monitor the tariffs structure** and its social component
- Consider **clients capacity to pay** before setting tariffs
- **Continuous communication** to stakeholders
www.veolia.com/africa

Thank you
SESSION 4:
Public Private Partnership - Case study : CIE

Leandre N’DRI, Director General Studies
I. Presentation of Eranove

II. History of Private Sector Participation

II. Impact of privatization

IV. Lessons Learned
Eranove is a successful pan-African power and utility group

- Leading West African power and water company: both as an independent producer and as a public services provider

- Installed capacity > 1,130 MW
  #1 electricity producer in Côte d’Ivoire (c.70% of market shares)

- Electricity: 1.32m customers
- Water: 1.43m customers

Note: Audited consolidated accounts (IFRS) 1. From ordinary activities (2014) 2. Defined as EBITDA 2014 / Revenues from ordinary activities 2014
A unique footprint across Sub-Saharan Africa

- Positioned as the key Electricity Export manager on behalf of the State of Côte d’Ivoire via CIE to West African neighbouring countries thanks to cross border interconnections
- New export opportunities through new interconnections with Liberia, Sierra Leone and Guinea under construction
- Active pipeline with currently 8 prioritised projects that will strengthen Eranove’s foothold in Sub-Saharan Africa (1)

1. The Group benefits from exclusive development agreements with the local governments, but it can not be sure that such projects will be awarded to the Group once the feasibility studies conducted
A longstanding presence in Africa

Eranove a story of reputation and know-how …

- More than 50 years of presence in the continent
- Exclusive right to transport and distribute water and electricity in Côte d’Ivoire and water in Senegal
- #1 private producer of electricity in Côte d’Ivoire (as of December 2014)
- Strong management team with extensive experience of African markets and solid local roots
- Solid organization with African people managing the operations
- c.7,800 employees

… backed by a prominent investors base

- Employees Trust Funds (Subsidiaries) 8.9%
- African Private Investors 9.8%
- Managers 6.8%
- 18.6%
- 55.9%

Notes:
1. Through several entities
2. ECP Fil Finagestion S.à.r.l.
I. Presentation of Eranove

II. History of Private Sector Participation

II. Impact of privatization

IV. Lessons Learned
The electricity sector in Côte d'Ivoire has gone through several stages as far as its organization and operation are concerned.

Until 1985, the electricity sector was organized as an integrated State monopoly on the Generation, Transmission and Distribution segments.

The legal framework: electricity market liberalization in Côte d'Ivoire began with the Law 85-583 of 29 July 1985 on the electricity with the following characteristics:

- the opening of the generation segment to the private sector;
- keeping the Transmission and Distribution segments but also import and export under the State monopoly;
- the possibility to transfer the operation of the state monopoly to a public or private operator.
History of Private Sector Participation:
Privatization of O&M

In 1990

Financial crisis and operational difficulties of Public Service

the urgent need to act to keep the electricity system working

Personal involvement of PR Houphouet Boigny

Birth of CIE

October 20: Contract for a period of 15 years with the Ivorian Government

November 1: Effective activities start
History of Private Sector Participation

Objectives of privatization

Progressive Disengagement of the State of operations and focusing on

- Regulatory functions
- National energy policy making

- Improve economic and financial technical performance of the sector
- Restore self financing and fund raising capacities to insure the development of electricity sector
- Increase and accelerate access to electricity
- Provide good electricity service at the lower tariffs
History of Private Sector Participation/
attracting private operators by strengthening regulation

The birth of PPAs: The good results of CIE on both technical and financial performances of the sector after 3 years of operations, encourage the entry of new operators in the deregulated Generation segment with PPAs.

1994 CIPREL; 1997, AZITO ENERGY 2010, AGGREKO


- establishment of a regulator (ANARE) to strengthen the monitoring of the private operators which role in the system is increasing with more and more transactions and complexity,
- Delegation of the financial flows management to CIE as contribution to reduce the risk of revenue for private operator

One last reformed in 2011, has devoted the creation of CI-ENERGIES, a public company in charge of planning and investment in the electricity sector
History of Private Sector Participation:
Organisation of electricity sector activities: Single buyer system
History of Private Sector Participation:
Actual Institutional Framework

**RESPONSIBILITIES**

**STATE**
- Development Strategy
- Pricing of Electricity

**ANARE**
- Regulation of the sector
- Technical control

**CI-ENERGIES**
- Owner of state assets
- Asset management
- Management of financial flows
- Investments and Planning
- Manager of sector main works
- Rural electrification

**PLAYERS**

**IVOIRIAN STATE**
- Ministry of Energy and Petroleum
- Ministry of Economy and Finances

**CIE**
- System Operation
- Maintenance of facilities
- Customer service

**CUSTOMERS**
- Request for services
- Payment of bills

**FINANCIAL MECHANISM**

- Power purchase and fuel to independent producers and gas producers
- VAT
- Fees
- Sales revenue of Electricity

**Legal Link**
- Compensation of CIE

**Financial Link**
- IPPs
- CIE
- CUSTOMERS

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13
I. Presentation of Eranove

II. History of Private Sector Participation

II. Impact of privatization

IV. Lessons Learned
Impacts of privatization: Changes Implemented

The organization of the basic structures

- CIE has established a dynamic organization with low hierarchical level in Regional Units to reflect our socio-cultural environment. Three hierarchical levels and management procedures made it possible to delegate decision-making power to the base and empower every employee.
- To accommodate the needs of our organization and our management procedures, a customer application software called SAPHIR was developed by a team of CIE.

Since 1990, the activity of maintenance management was deeply revised by:

- The managerial policy of the company,
- Registration of public lighting points in Abidjan
- the progressive computerization of tasks and monitoring activities such as computerized mapping for public lighting and MV network as well as CMMS
- the establishment of a new model of management for maintenance
Impacts of privatization:
Staffing Levels & Productivity

- The specificity of this privatization in 1990 was such that the President of the Republic then asked that no lay-off was made.
- The workforce of CIE (permanent and temporary) at the end of December 2014 is 4,156 against 3,394 employees in 1990.
- The workforce is controlled and the productivity sustained in relation to sales growth and increase in the number of customers over the last 7 years.
Impacts of privatization: Utility Performance

Quality of product

Average time of power cut:
• from 50h/year/customer in 1990
• to 13h in 1997
• then 22h in 2005
(out of exceptional events caused by the crisis occurred in sept. 19 2002)

Quality of services

Deadline for repairs: average 4h to 2h and 1h in Abidjan

Creation of independent subsidiaries managing between 10.000 and 30.000 customers

Network output: 81%

Collection rate of private customers: 98%
• Tariffs of electricity in Côte d'Ivoire is the responsibility of the State. It aims the financial equilibrium of the sector, its self-financing and equality between consumers. The electricity tariffs are divided into four broad categories:
  – **low voltage tariff** (social domestic tariff, general low voltage tariff, low voltage professional tariff, street lighting tariff, special tariffs)
  – **medium voltage tariffs** differentiate by load profile (short use, medium and long duration)
  – **high voltage tariffs** differentiate also by load profile (short use, medium and long duration)
  – **special tariffs** (refinery, fabric factory)

• These tariffs are based on the long-term marginal costs of Ivorian electrical system
Impacts of privatization: on Tariff Levels

The tariff structure currently in force was developed in 1980 from a tariff study by EDF on behalf of EECI. A new tariff study that will define a new pricing structure is available to take into account the arrival of IPPs and change in the configuration of the generation fleet.

8 tariffs adjustments since privatization in 1990

Unit price of the kWh, 0.148 USD as at Dec. 2013 versus 0.096 USD as at Sept. 1991

- Increase of 54% of tariffs vs
- 200% increase in consumer prices index over the same period
Impacts of privatization: Electricity Industry development

High contribution to supply demand: IPP investment activity

- The radical change made in the electricity sector in 1990 led to the arrival in Côte d'Ivoire of private investors (CIPREL and AZITO ENERGY) who did not hesitate to invest from 1994 to 2013 more than 560 Million USD in independent electricity generation.
- The net supply of electricity by IPP which was nonexistent in 1990 went, for several years now, over 70% of the total net generation of the Ivorian electrical system.

Generation – Energy in 2013

- 79% Thermal
- 21% Hydro

Thermal Generation

- 38% VRIDI
- 19% IPP
- 6% CIPREL
- 37% AZITO
- 6% AGGREKO
Impacts of privatization: Increase access to electricity service

Generation capacity growth since 1990

MW
1800
1600
1400
1200
1000
800
600
400
200
0


IPP Etat
Impacts of privatization:
Increase access to electricity service

Customer growth since 1990

- 1990: 409,817
- 2000: 765,373
- 2010: 1,315,837
- 2014: 1,315,837
Impacts of privatization:

on Financial Performance: more transparency and security

**Catégorie A (priorité 1):**
- Rémunération CIE

**Catégories B (priorité 2):**
- **Sous catégorie B1&B2 (priorité 2,a):**
  - B1: Achat de combustibles (FOXTROT, CRR, AFREN, Sir)
  - B2: Achats d'énergie (CIPREL, AZITO, AGGREKO)
- **Sous catégorie B3 (priorité 2.b):**
  - Résiliation anticipée Concessionnaire et IPP en ratio
- **Sous catégorie B4 (priorité 2.c):**
  - Résiliation anticipée IPP hors ratio

**Catégories C (priorité 3):**
- Charges de fonctionnement des entités publiques:
  - Anaré, CI-Energies
  - Comités de gestion des Fonds du secteur

**Catégories D (priorité 4):**
- Dotations aux Fonds d'investissement
  - D1. Fonds de Renouvellement et d'Extension
  - D2. Fonds d'Electrification Rurale;
  - D3. Fonds de Développement.

**Catégories E (priorité 5):**
- Dotations au Fonds du Service de la Dette du Secteur

**Catégorie F (priorité 6):**
- Dotations au Fonds de Stabilisation du secteur

**Concessionnaire (CIE), Gestionnaire délégué pour:**
- L'encaissement des ressources,
- Le paiement des dépenses de catégories A et B,
- Le versement des dotations de la catégorie C
- Le versement des dotations aux Fonds du secteur, catégorie D
- La gestion du Fonds de Renouvellement et d'Extension.

**Côte d'Ivoire Energie**
(Gestionnaire délégué pour la gestion des dotations destinées aux catégories C, D (à l'exception du Fonds d'Extension et de Renouvellement), E et F)
Impacts of privatization:
on Financial Performance : improve financial capabilities

We can acknowledge after 1990, the restoration of the financial credibility of the electricity sector with donors to obtain new loans needed for financing the renewal and strengthening of electrical facilities and the development of the grid.

The repayment of a regular fee has allowed the State to intensify its rural electrification policy. As an illustration, over the 1990 to 2004 period, the State has received a fee representing 23% of the revenues from electricity sales.

Thus, from 1,030 electrified localities in 1990, we reached in 2005, 2,600 and 3,500 in 2015. A new program have been adopted by Government to electrify 500 localities per year
Impacts of privatization: on Financial Performance: self financing not reach yet

• However, for about ten years now, the electricity sector has been facing difficulties due to
  – the rising costs of items including the natural gas price,
  – Increase of commercial losses due to fraud and worsened linked to the long political crisis period in Côte d'Ivoire,
  – Not cost reflective, tariffs.

• In 2011 a plan to restore power and financial balance was adopted by the State and is being implemented with new development opportunities for the private sector, especially in the generation hand: hydro, thermal, renewables.

• In 2015, a deep review of tariffs structure have been put on to improve financial performance and guarantee a proper development of electricity sector in accordance to the emerging political goals of Government for year 2020.
Presentation Outline

I. Presentation of Eranove
II. History of Private Sector Participation
II. Impact of privatization
IV. Lessons Learned
Lessons learned:
Public Perception & Political Implications

- Privatization, is widely exploited by politicians to condition Public opinion, to generate social movements when there poor quality of service, like "selling off national interests", "Looting of national economies," "strategic sectors of the country in the hands of neo-colonialism."
- That situation can create a particularly hostile relations within the private operator and customers or an internal environment not favorable to positive collaboration between public sector and private company,
- A wide communication of Government about PPP process, utility particularity, expectations and responsability of each players in the system can contribute to ease operation and attract private operators,
Lessons learned:
Public Perception & Political Implications (2/2)

• To reduce tension in public opinion surrounding the privatization of the electricity sector, the top management of CIE undertook an external communication strategy towards major opinion leaders and several stakeholders such as:
  – leaders of political opposition parties and their closest collaborators
  – ruling party and all its members: working session in the National Assembly
  – media,
  – consumer associations
  – members of the Economic and Social Council
  – Financial institutions,
  – academics, judges, donors
  – Police, Security forces, etc..

• Inside the private Company, top management of CIE took the needed time to prepare employers to understand changes occurring and to face the challenges.
Lessons Learned: general purpose

- The political will is a critical factor of reforms success. Privatization carried out solely in accordance with conditionality adjustment plans will have no guarantee of success,
- The type of PPP and the way to implement it should cross a deep diagnostic of the situation of the sector,
- Beyond the process to choose the private partner, PPP should not appear only as business but also as a contribution to development of privatized activities. Many times private partner should prepare to take more responsibility than what is written in the contract,
- **Gold rule:** there’s no universal model. There are just appropriate model for each country taking in account many factors such as: the local context, the needs of consumers, political goals, ability to pay, natural resources available, technical capabilities, ...
- The ability of leaders to establish a modern organization rooted in the country's culture and taking into account the strengths and weaknesses of the society, their engagement to promote responsible teams, is also one of the main critical success factors.
Lessons Learned:

Electricity sector in many African countries are in development progress with low coverage ratios and investment needs are enormous. National markets are in some countries too narrow and rigid tariffs hinder private investment especially in the distribution segment.

However at the generation level, the introduction of independent producers is a good response to the scarcity of public resources, despite the high level of capital investment, usually leading to contracts such as "take or pay" thus limiting competition.

In Côte d'Ivoire, the Introduction of a mechanism for managing financial flows that builds trust with all expenses managed by a private operator has contributed to the fact that private investors do not hesitate, under the guarantee of a direct payment by this operator, to build either independent power plants either gas drilling to supply these plants.
THANK YOU
Outline

- African Power Sector Opportunity
- Vision for Growth
- Kabompo Gorge Hydro Project (Zambia)
- Luapula Hydro Project (Zambia)
- Renewables
- CEC Africa
  - Abuja Distribution Company
  - Shiroro Hydro Project
  - Arandis HFO Project
  - Kudu Gas Project
  - CEC Sierra Leone Generation Project
- PPPs in CEC Group
African Power Sector Opportunity

- Exponential increase in transactions closed since 2013
  - South African Renewables
  - Nigerian PHCN Assets – Discos & Gencos
  - Policies of larger economies (Nigeria / SA renewables) expected inspire reform in smaller economies
  - Contributing factors:
    - Oil and gas or mining revenues
    - Government policies and tariffs
    - External support – Power Africa / Millennium Challenge Corporation
    - Technology improvement – Solar, Scalable Gas Technology, Long Distance Transmission, Interconnectors, Energy Storage & Smart Grid

- Financial Sector Response
  - More Developers, Private Equity, Commercial Banks
  - Less reliance on Project Finance, more Structured / Corporate Finance
CEC Group
Vision for Growth

- CEC Africa launched to develop Pan-African Growth Strategy, registered in Mauritius
- Plan to Invest in around 10 New Power Projects within 10 Years across value chain – Distribution, Transmission, Generation, Renewables
- Two already completed:
  - Abuja Distribution Company
  - Shiroro Hydro Concession
- Three Under Development:
  - Generation in Namibia (2) and Sierra Leone

Business Model
- Investment Company with Operational Expertise
- Flexible Capital Structure
Kabompo Gorge Hydro (Zambia)

- Greenfield Hydro Being Developed by CEC Plc
- 40MW Hydro, Storage Lake, North Western Zambia
- $190m Project Cost
- PowerChina EPC Contractor
- Sale of Power to CEC Plc
- Financing Structure
  - Original proposal – Project Finance – 15 Year Tenor – DFIs or Chinese Banks
  - Possible Alternative – 7 Year Structured Facility / Bond Structure, some re-financing risk, wrap for certain risks (political / commercial / construction)
Update on Luapula Hydro Projects
750MW Cascade Hydro Schemes

- Cross-Border River between Northern Zambia / Katanga Province of DRC
- Feasibility Studies Being Completed for 4 or 5 Schemes on Luapula River – DRC / Zambia Border
- High Quality / Cost Competitive Sites
- > $1.5Bn total capital cost
- Mines (Chinese / Glencore / Freeport McMoRan) can provide capital contribution / off-take
- Political Risk mitigation required – general trend of increased stability in Katanga Province
Renewables Opportunity

- Projects undergoing feasibility:
  - 300MW solar – Niger State, Nigeria
  - 20-50MW solar Zambia
  - Bio-mass / bio-fuels Zambia

- Access to customer base provides route to market (Nigeria, Zambia, DRC)

- Captive Power / Hybrid Power Supply models emerging

- Concessional Funding available

- Significant number of new developers entering market
Abuja Disco/KANN Utility

- Serves 650,000 Customers in 4 States
- $250m p.a. turnover rising to $750m over 10 years:
  - Target to reduce losses to <20% within 5 years
  - Increased power availability
  - Organic growth of 5 – 10% per annum customer numbers
  - Displacement of self-generation
- High Losses – 53% 12 months before takeover
- Poor Systems / Lack of Financial Control main factor
- Senior Debt plan - $180m capex spend in first 5 years
- Cash collection / Loss reduction / Vending / Asset Leasing / Treasury Management are key contributors to business model
Shiroro Hydro / North South Power

- 600MW Hydro in Niger State
- Turnover circa $80m per annum
- Operational Management Contract in Place
- Capital Plan over 5 years - $50m
- Capacity Expansion Projects Identified
- Acquisition Finance Facility of $70m outstanding with Zenith Bank

17 November 2015
Projects in Namibia

- **Arandis 120MW HFO Generation Project**
  - Capital cost circa Euros 250m including fuel storage / importation and solar adjunct
  - 20 Year PPA with NamPower

- **Kudu Project**
  - 30% shares in power project allocated to CEC Africa
  - Up-stream project developed in parallel (NamCor)
  - CEC Plc joint power off-taker with NamPower
  - 900 MW – base load / mid-merit
  - Associated transmission investment in Namibia, South Africa, Zambia
  - $1.2Bn investment for power, similar for up-stream gas development
CEC Sierra Leone

- 128 MW Generation Project in Freetown
- Sale of Power to Government with World Bank PRG
- IFC appointed as Lead Arranger
- Three Phase Implementation
- Follow on investments – further generation, captive power, transmission
PPPs within CEC Group

- Government as JV Partner / Shareholder:
  - CEC Plc
  - Abuja Disco
  - Kudu (through NamPower)

- Government as Off-taker / Customer:
  - Sierra Leone
  - Nigeria
    - AEDC – Government Institutions
    - Shiroro – NBET
    - Namibia

- Government as Generator / Supplier:
  - CEC Plc
  - Abuja Disco
THANK YOU