Power Struggles in SSA

Challenges of Electricity Provision in Sub Saharan Africa

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Bruegel event ‘Fostering Energy Access in Sub-Saharan Africa: What Role for Europe?’
Brussels, October 5, 2017
Why is power supply such a persistent question in Africa?

- 600m people and 10m SMEs have no access
- Energy not keeping up with GDP growth

- Abundant low carbon, low cost energy resources
- But high cost thermal generation dominates

- Over 1,000 GW of Wind and Solar
- 45 GW of feasible Hydropower
- 15 GW of Geothermal potential
- Major reserves of Natural Gas

Source: Africa Energy Outlook and World Bank Estimates

Source: EU and World Bank Estimates
Our client countries in SSA have to contend with a number of structural factors...

Small systems prevent significant economies of scale:
- Generation across same and different technologies
- Transmission & Distribution
- Access to energy resources

Other well-known barriers to growth:
- Landlocked countries
- Low population density

![Population and System Size Comparison](chart)
- **Texas**
  - Population: 25.9 Million
  - System Size: 2.02 GW
- **Ghana**
  - Population: 26.4 Million
  - System Size: 68.30 GW
… but are also exhibit poor sector governance and inefficiency

**POLICY TO BENEFICIARY**

- Long lead time for investments
- Long-lived & capital-intensive assets
- Long delay before repercussions are felt

**CORRUPTION**

- POOR PLANNING
- INEFFICIENT O&M
- COSTS TO ECONOMY
An Integrated Approach along the Value Chain

**Generation**
- Reduced cost of production (low carbon, low cost generation)

**Transmission**
- Regional integration (regional power pool development)

**Distribution and access**
- Reducing cost (sector reform, tariff, improving efficiency)

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**Scale-up Energy Supply**
- Crowding in private sector financing
- Main area for one WBG approach
- Project preparation

**Power Pool Development**
- Building institutions: TA for power pools
- Building infrastructure: Financing, TA, convening power

**Scale-up Energy Access**
- UN SE4All Goal - Universal Access for All by 2030
- Utility support
- Off-grid, mini-grid

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**Knowledge and Partnerships**
Leverage our limited resources and expand south to south cooperation
What the World Bank financed in FY14

- Transmission and distribution ($2.2bn)
- Policy and regulatory environments ($1.6bn)
- Renewable Energy generation – hydro ($2.3bn)
- Renewable Energy generation – (non-hydro) ($1.27bn)
- Energy Efficiency ($750m)
- Gas-fired generation ($404m)
Private sector investment in Generation: Financing and risk mitigation instruments

- **Debt**
  - Lenders
  - **SPV**

- **Equity**
  - Strategic investor
  - Government

- **Off takers**
  - Local Utility
  - Exports
  - Mining Projects

- **Partial Risk Guarantee**

- **Political Risk Guarantee**

- **PPAs**

- **Escrow Account**
Scaling up off-grid solutions: success stories, but access to finance a barrier to growth

WBG has engaged with governments and private sector to accelerate access to off-grid energy services

Bangladesh – the largest national off-grid electrification program

Lighting Africa/Asia – leveraging market to deliver services to “Base of Pyramid” customers

<table>
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<th>Year-wise</th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
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Lighting Global - total verified good quality products in service millions

- Realized need for QA; started to develop test method
- Lighting Africa Quality Test Method (LA-QTM) Developed and QA launched
- >5 products meet Minimum Quality Standards
- >25 products meet Minimum Quality Standards

SHS annual installations

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