Thermal Power Opportunities in Sub-Saharan Africa

Presentation to:

TresVista
FINANCIAL SERVICES

Contents

Executive Summary

Executive Summary

Overview of Power Sector

- Demand in the Sub-Sahara African (SSA) power sector witnessed healthy growth with a CAGR of 3.1% between 2001 and 2010. However, the region has not been able to match the supply with total installed capacity growing at 1.4% CAGR over the same period and a high degree of energy losses
- The power sector in the region remains highly underserved compared to the emerging BRIC nations with the lowest per capita installed capacity and electrification rate
- High GDP growth, growing population, and rising urbanization signifies and validates the demand-supply lag will be fulfilled

Thermal Significance

- Thermal energy sources such as coal, gas, and oil dominate majority of the power generation mix of the region satisfying 70.0% of the requirement as of 2010. The extent of the dependence has been consistent over the past 3 decades. Also the plant additions in the region suggest that this trend is expected to continue in the foreseeable future
- Between 2011 and 2017, demand is expected to grow at a 3.8% CAGR, creating a need for an additional 23.2 GW of installed capacity of which, thermal will account for 16.2 GW. The total greenfield investment opportunity is estimated at ***USD 29.0 – 32.5 billion***

Screening Criteria

- To narrow down to the specific investment opportunity, the SSA region, which is currently divided into 4 pools and island states creating a universe of 48 countries is further screened based on pools' GDP, installed capacity, individual country's thermal contribution, and private participation to arrive at ***10 countries across 3 pools***

Executive Summary

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Focus Countries – Recommendation

Country	Economic Fundamentals	Power Sector Overview	Thermal Significance	Investment Opportunity	Ease of Doing Business	Consolidated
South Africa	2	3	3	2	4	3
Nigeria	3	2	3	3	3	3
Botswana	3	2	4	2	4	3
Ghana	3	2	1	3	3	3
Namibia	1	3	1	2	2	2
Mozambique	2	1	0	3	1	2
Senegal	1	2	2	2	1	2
Ivory Coast	2	1	2	2	2	2
Tanzania	2	1	1	2	2	2
Kenya	1	2	1	2	2	2
Angola	3	3	0	1	1	2

Each rating head includes ranks on the following sub-heads:

- **Economic Fundamentals** considers GDP Growth Rate and Urbanization
- **Power Sector Overview** covers the Electrification %, Capacity Outlook, Installed Capacity/Population, and Demand
- **Thermal Significance** measures Thermal as a % of Total Capacity, and Domestic Output
- **Investment Opportunity** includes FDI as a % of GDP, IPP Market Share, % of SSA Funding, and Sovereign Rating
- **Ease of Doing Business** consists of Regulatory Environment, Ease of Doing Business Ranking, and Challenges

1. Note: Ease of Doing Business ranking sourced from http://www.doingbusiness.org.

Executive Summary

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Power Pools – Key Statistics

Pool	GDP Contribution	Capacity Contribution	Thermal Contribution	Demand CAGR	Capacity CAGR
Southern African Power Pool	48.5%	72.0%	79.1%	2.4%	0.6%
Western African Power Pool	29.2%	14.7%	13.5%	5.6%	1.6%
Eastern African Power Pool	14.0%	9.1%	4.0%	9.4%	8.2%
Total	91.8%	95.8%	96.7%		

Note: CAGR for the period 2001 to 2010.

Executive Summary

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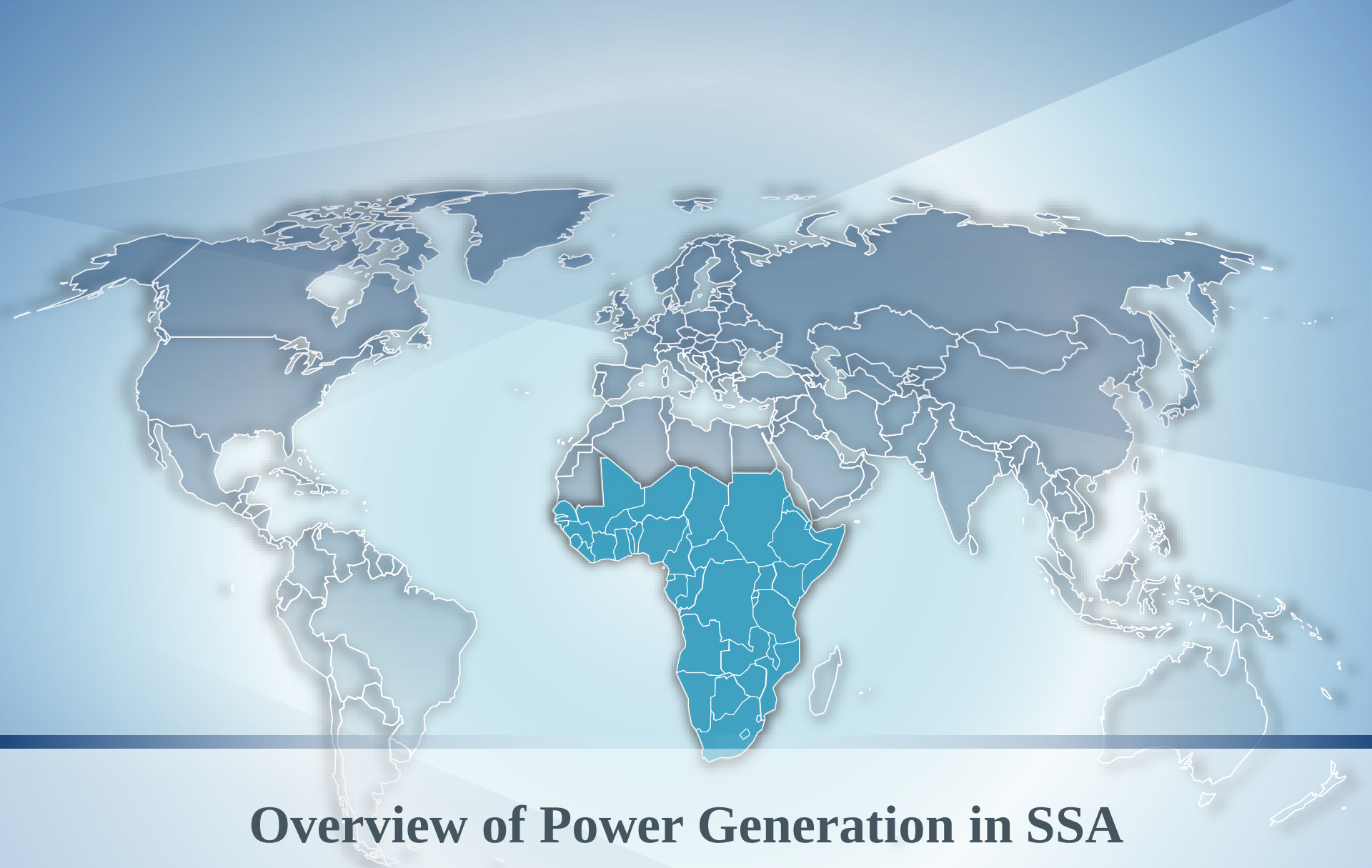
Focus Countries – Key Statistics

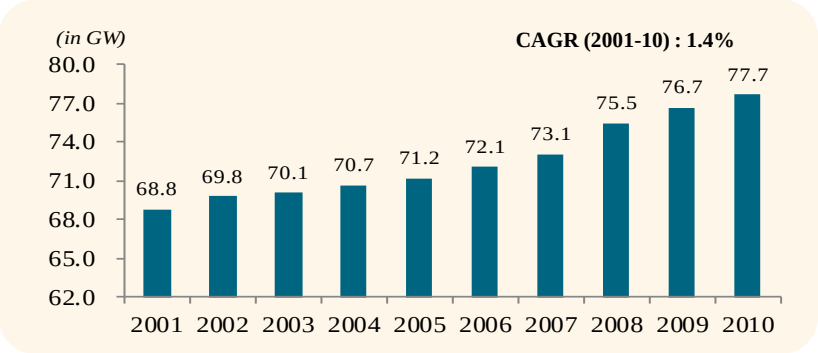
Country	Installed (GW)	% of SSA Capacity	Capacity Outlook - 2017 (GW)	% of Country Capacity	IPP Market Share	% Greenfield Projects	Funding (USD million)	% of SSA Energy Funding
South Africa	44.3	57.0%	47.7	90.8%	5.0%	96.5%	1,267.0	10.2%
Nigeria	5.9	7.6%	NA	67.1%	41.7%	76.5%	2,200.0	17.6%
Botswana	0.1	0.2%	1.0	100.0%	NA	100.0%	104.0	0.8%
Ghana	2.0	2.6%	2.8	40.6%	22.4%	93.3%	1,500.0	12.0%
Namibia	0.4	0.5%	0.7	36.6%	NA	-	5.0	0.0%
Mozambique	3.5	3.1%	NA	10.3%	85.5%	1.0	1,206.0	9.7%
Senegal	0.6	0.8%	NA	99.7%	39.7%	0.7	239.0	1.9%
IvoryCoast	1.2	1.6%	NA	50.6%	40.8%	0.9	381.0	3.1%
Tanzania	0.8	1.1%	1.1	33.2%	26.2%	0.8	644.0	5.2%
Kenya	1.7	2.2%	3.5	41.9%	18.5%	0.9	1,023.0	8.2%
Angola	1.2	1.5%	2.2	56.8% *	1.4%	1.0	174.0	1.4%
Cumulative	61.7	78.1%		81.8%		88.4%	8,743.0	70.1%



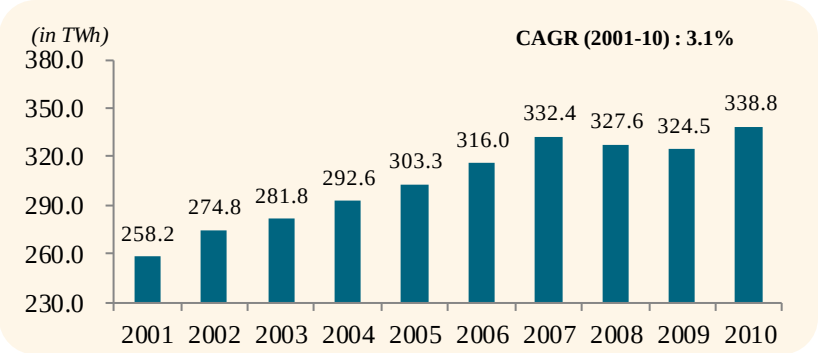
Overview of Power Generation in SSA

Overview of Power Generation in SSA

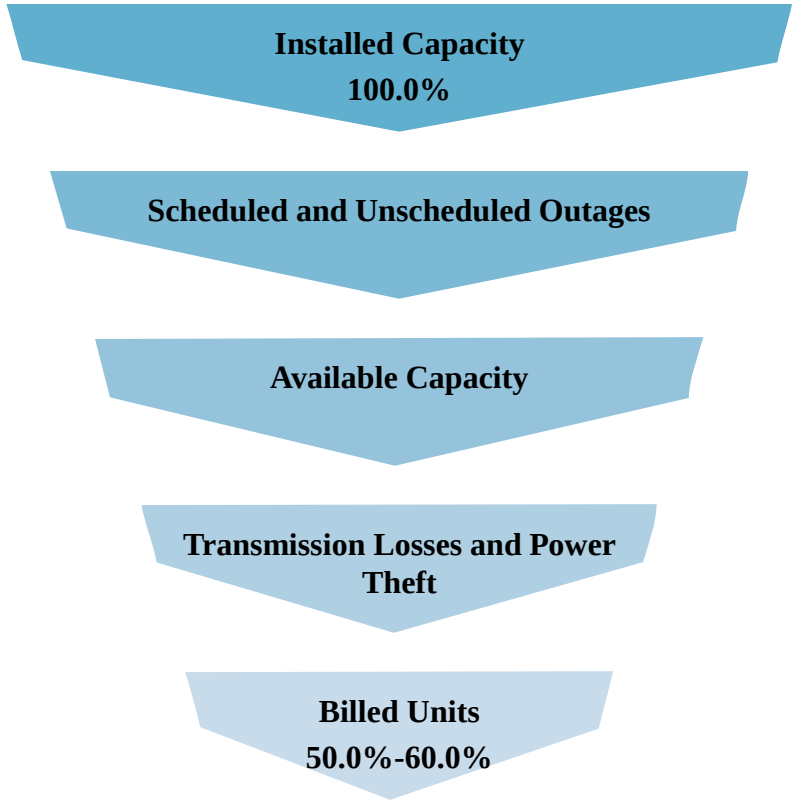
Installed Capacity[1]



Total Demand[1]



Energy Losses



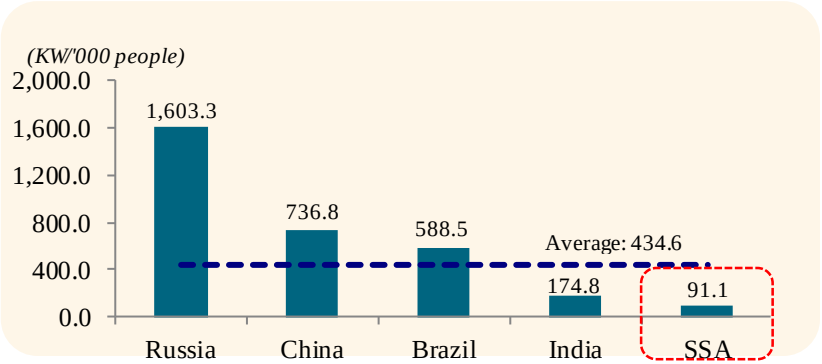
Supply falls short of meeting demand due to poor infrastructure and lagging growth in capacity

1. Source: EIA 2010.

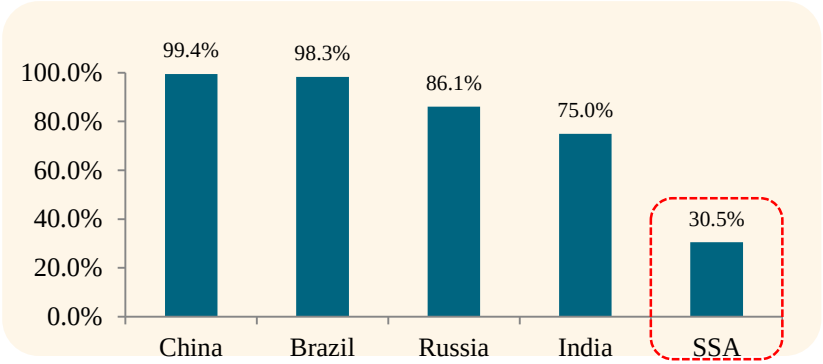
*2. Conversion Example for 2010 : Maximum Capacity (77.7 GW * 24 * 365) = 680.6 TWh, Total Demand : 338.8 TWh, Energy Losses = 50.3%.*

Overview of Power Generation in SSA

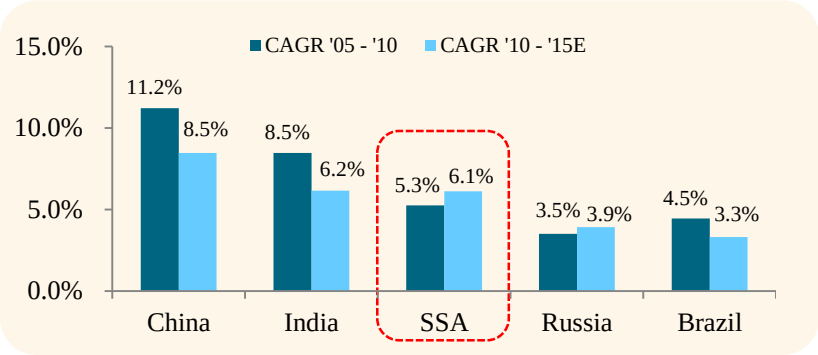
SSA vs. BRIC- Installed Capacity/Pop.[1]



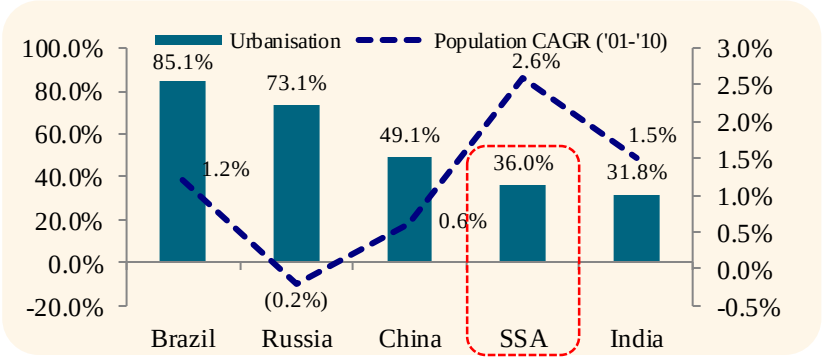
SSA vs. BRIC- Electrification[1]



SSA vs. BRIC – GDP Growth[2]



SSA vs. BRIC - Urbanization[1]

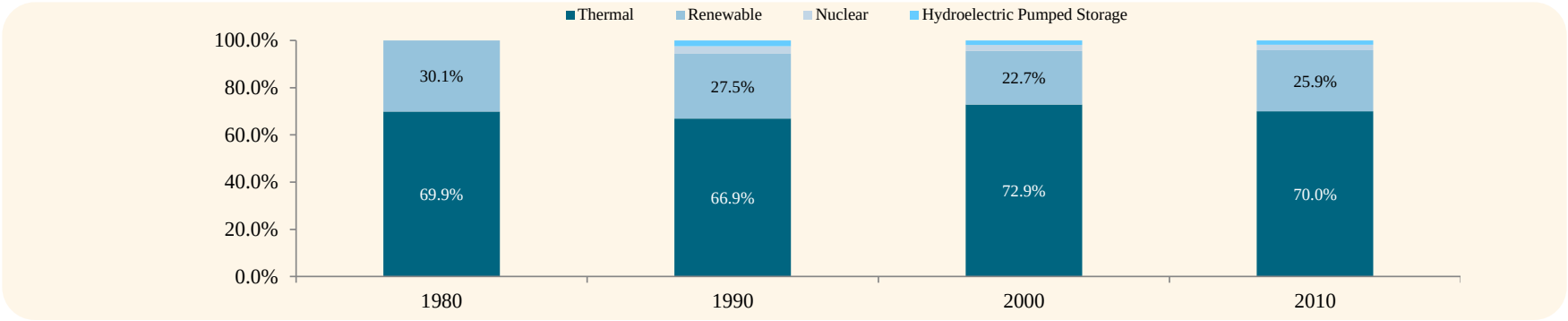


Following the emerging peers, SSA is expected to expand its capacity to catch up on rising demand

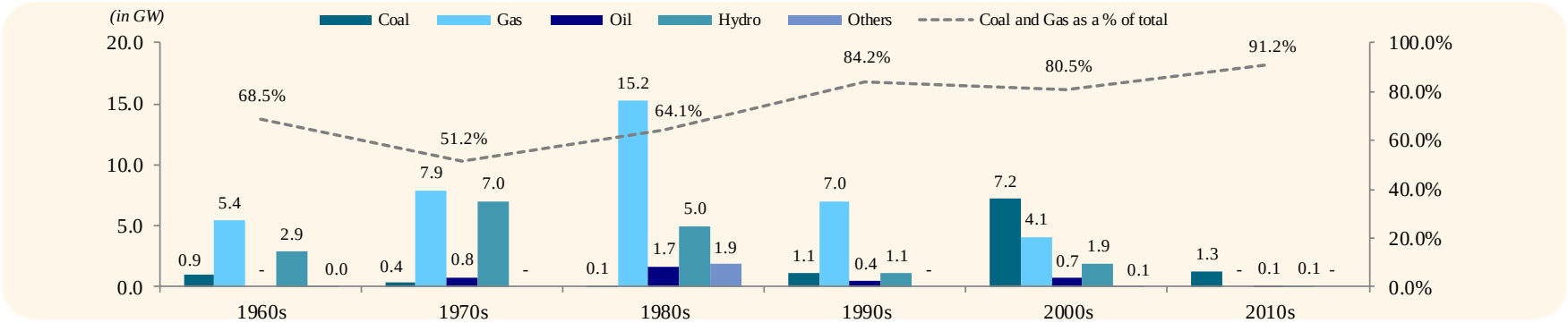
1. *Source: EIA 2010.*
2. *Source: IMF.*

Overview of Power Generation in SSA

Generation Mix (1980 – 2010)[1]



Plant Additions[2]

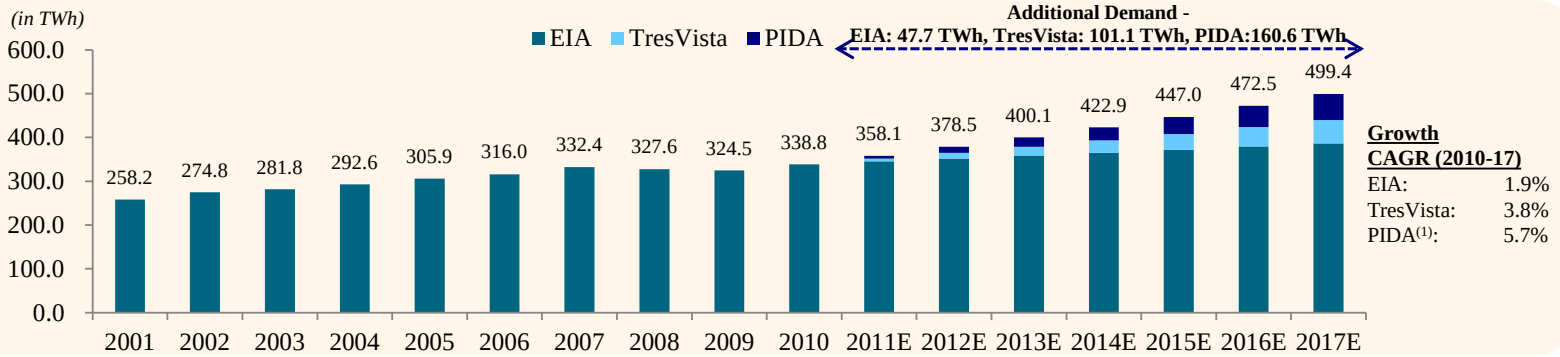


Thermal is the major contributor to the generation mix driven primarily by coal and gas

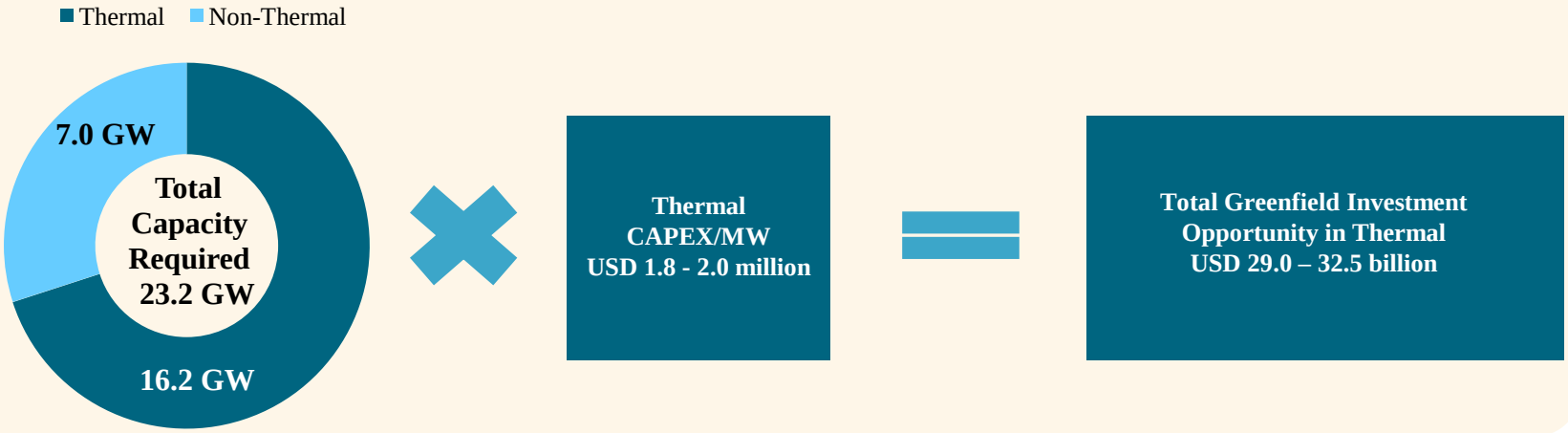
1. Source: EIA 2010.
2. Source: http://globalenergyobservatory.org.

Overview of Power Generation in SSA

Demand Forecast[1]



Investment Opportunity (2011-17)[2] [3]



1. *PIDA: Programme for Infrastructure Development in Africa.*
2. *Assumption: Thermal/ Total capacity = 70.0%. Investment Opportunity based on TresVista assumptions.*
3. *Assumption: Thermal Capex per MW = USD 2.0 million, Source: VGB Powertech Survey 2012.*

Overview of Power Generation in SSA

Screening Criteria

4 Pools & Island States – 48 Countries

Screening based on each pool's contribution to SSA GDP and Installed Capacity

3 Pools (Excl. CAPP & Island States) – 36 Countries

Filtered countries with highest thermal contribution to their respective pools

18 Countries

Countries with potential investment in thermal IPPs

Shortlisted 10 Countries

Note: CAPP - Central African Power Pool. IPP – Independent Power Producer.

Note: Thermal contribution criteria assumed between 90.0% - 95.0%.

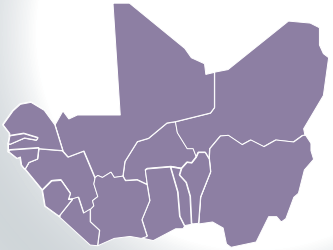
Power Pool Profiles

Power Pool Profiles

Power Pool Overview

WAPP

West African Power Pool



14.9%

11.4 GW

EAPP

Eastern Africa Power Pool

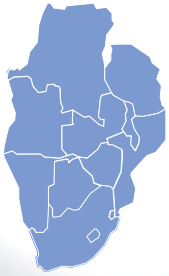
9.1%

7.1 GW

95.8%

SAPP

Southern Africa Power Pool



71.7%

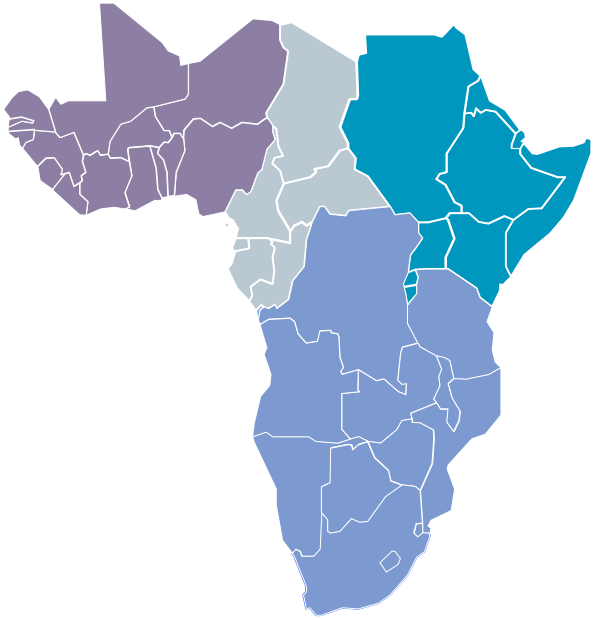
55.9 GW

CAPP

Central Africa Power Pool

2.3%

1.8 GW



Note: Percentages stand for capacity contribution in SSA.

Note: Apart from the 4 pools, island states constitute 2.0% of the total SSA Installed Capacity which is not taken into consideration.

Note: Egypt is a part of EAPP but is excluded from the analysis since it is not part of Sub-Saharan Africa.

Power Pool Profiles

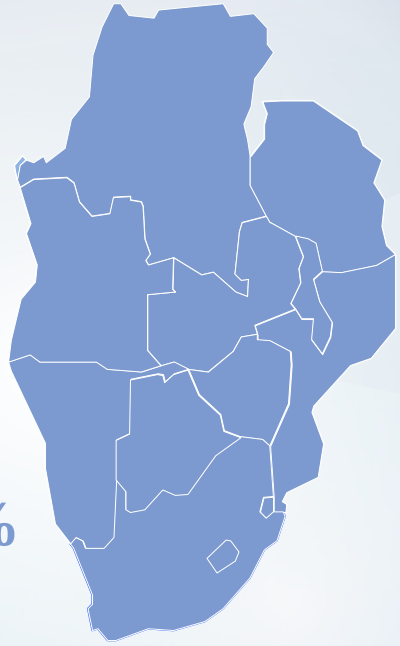
Interconnectivity between Corridors

Purpose	▪ The Regional Power Pools are created primarily to provide security of supply in the short to medium term and to meet electrification targets
SAPP	▪ Most of the SAPP members are interconnected to the power grid for trading energy. However, there are certain bottlenecks for which additional transmission lines are required limiting incremental revenues
EAPP & WAPP	▪ The master plans developed by EAPP and WAPP have addressed the implementation of cross border transmission lines. Attracting funds is one of the key challenges that the region is facing. Their success depends on harmonization of regulatory framework among the countries
Key Master Plan Developments	▪ **EAPP:** Mozambique North – South line, Mozambique – Malawi – Tanzania, Tanzania – Rwanda – Burundi, Kenya – Uganda, Uganda – Eastern DRC – Inga ▪ **WAPP:** DRC – South Africa via Angola Namibia and Botswana
Distribution	▪ In terms of distribution lines, majority of Distribution System Operators (DSO) are in the hands of local municipalities. There are several fragmented DSOs in most countries resulting in loss of economies of scale. Small municipalities often struggle to maintain the distribution networks and most are in need for additional investment

Source: www.AfricaPowerGuide.com.

SAPP

Southern African Power Pool



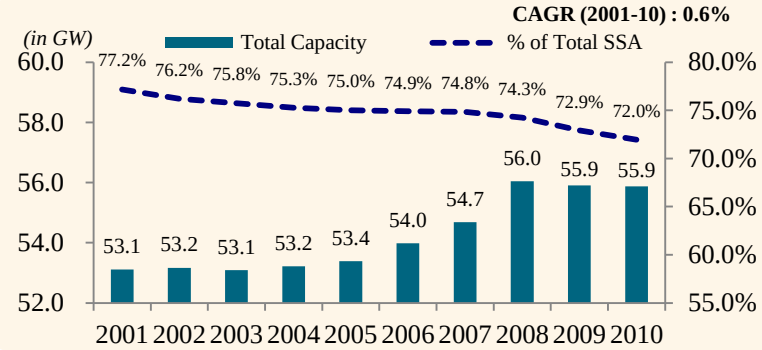
71.7%

55.9 GW

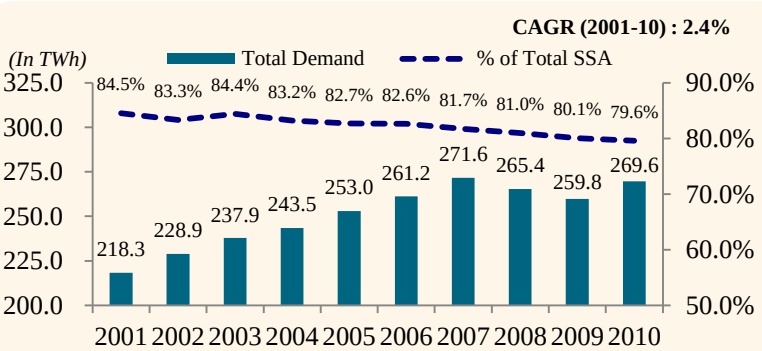
Southern African Power Pool (SAPP)

Southern African Power Pool (SAPP)

Installed Capacity[1]

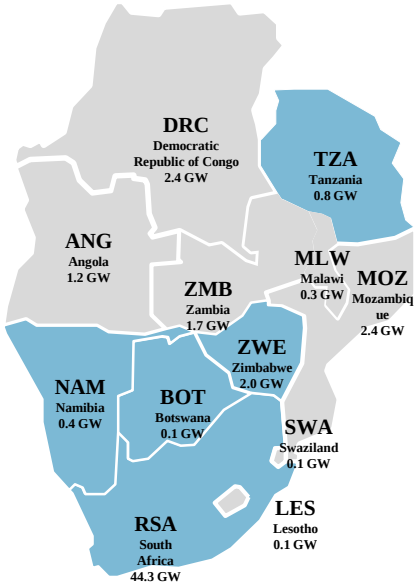


Total Demand[1]



Member Nations & Installed Capacity

# of Countries:	**12**
Population[2]:	**256.4 mln**
Current GDP[2]:	**$636.1 bln**
2011 Real Growth[3]:	**3.8%**
Current GDP/Capita:	**$2,480.6**



Installed Capacity of Selected Countries = 85.3% of SAPP

SAPP is the largest power pool in SSA by installed capacity and energy demand

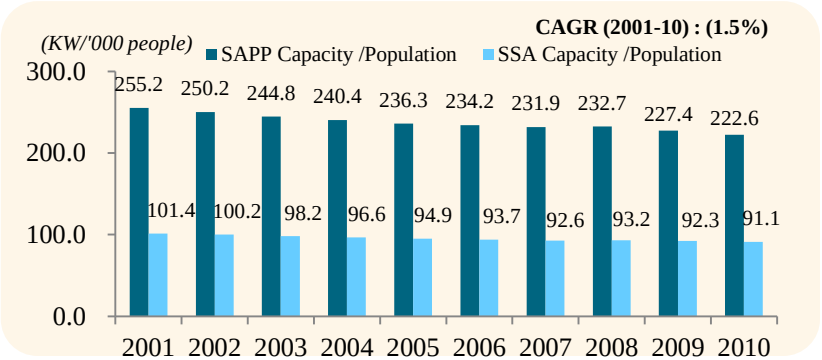
1. Source: EIA, 2010.

2. Source: IMF, WEO Database, October 2012.

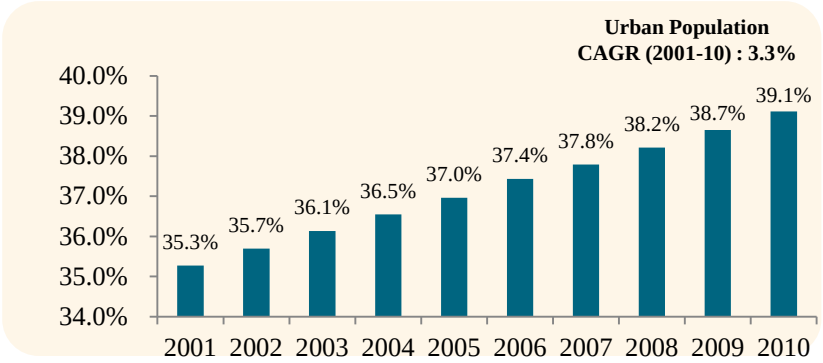
3. Source: World Bank Data.

Southern African Power Pool (SAPP)

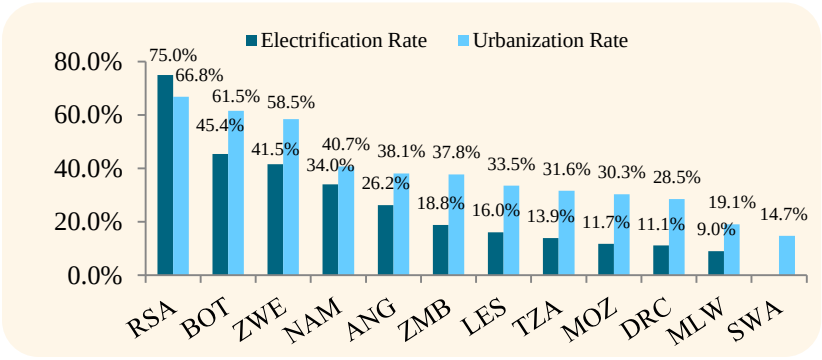
Installed Capacity/Population[1]



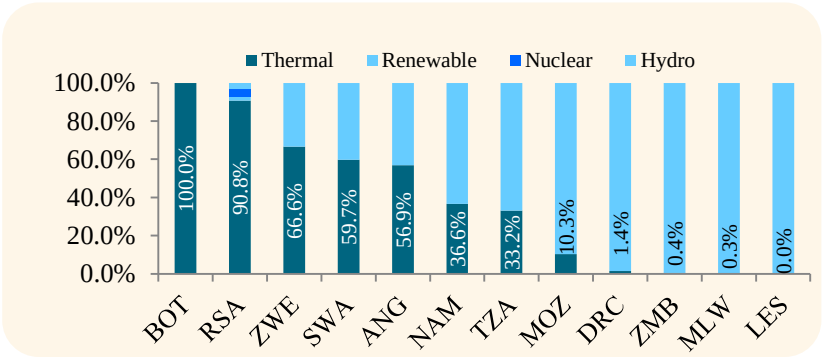
Urbanization[2]



Electrification & Urbanization Rates[3]



Generation Mix[1]



Higher than the region's urbanization, SAPP's has an installed capacity of 2.0x compared to the region

1. Source: EIA, 2010, IMF.

2. Source: World Bank.

3. Source: IEA World Economic Outlook, 2011; World Bank. Electrification rate for Swaziland is not available.

South Africa (SAPP)

South Africa (SAPP)

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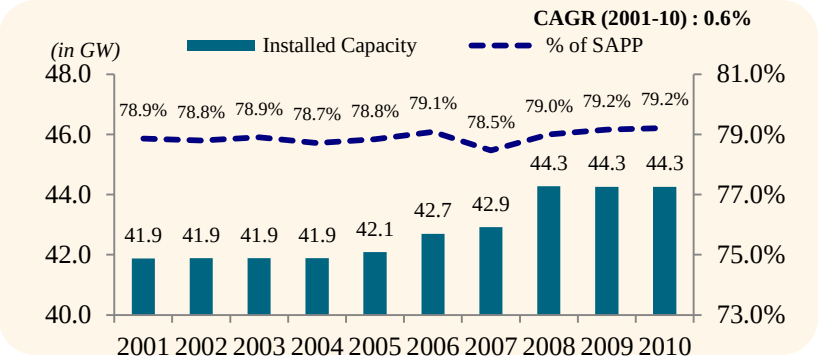
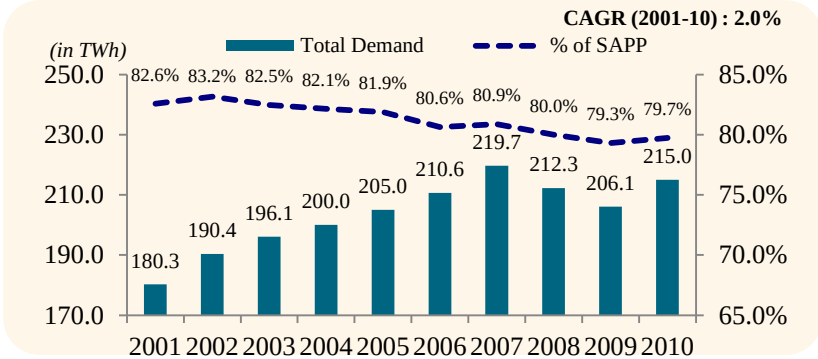
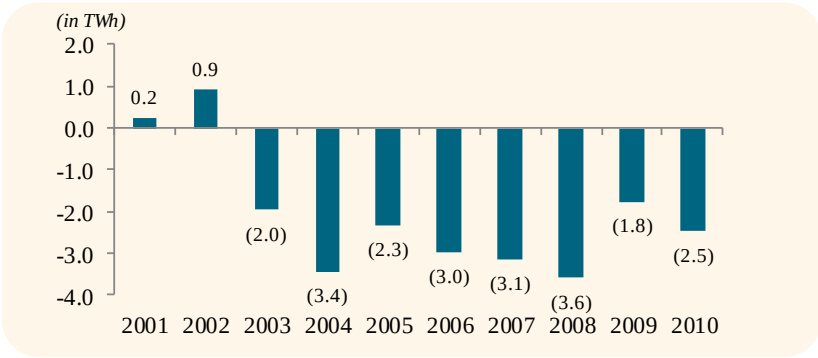
Total Installed Capacity[1]



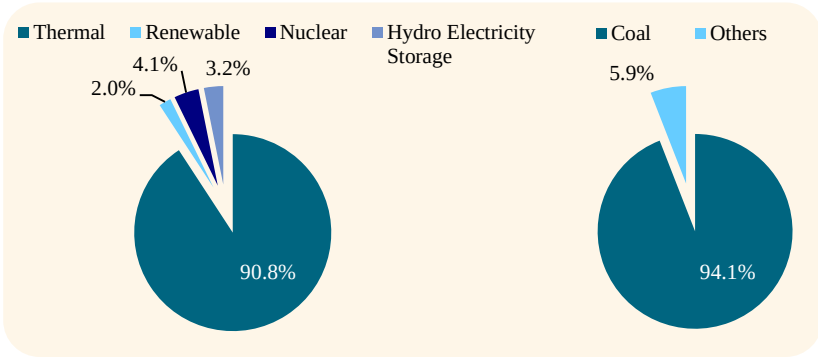
Total Demand[1]



Net Electricity Imports[1]



Generation Mix[1] & Domestic Output[2]



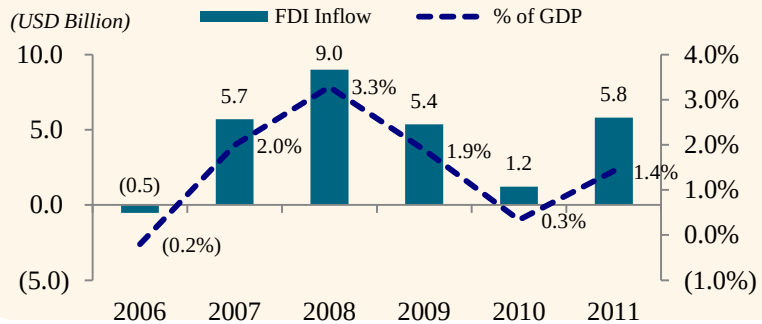
1. Source: EIA 2010. Generation mix represents the installed capacity.

2. Source: World Bank. Domestic output represents the total power generated.

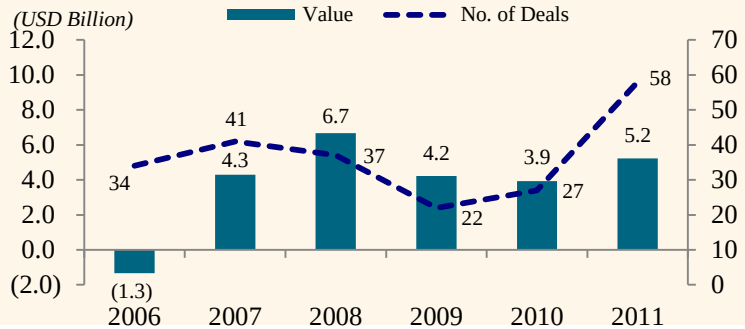
3. Note: Negative imports imply exports.

South Africa (SAPP)

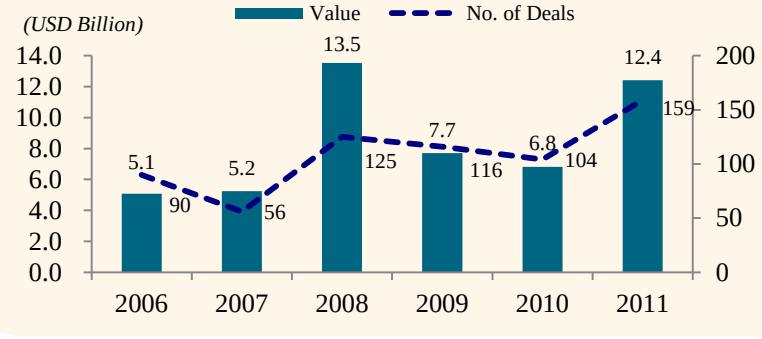
Net FDI Inflows[1]



Cross-Border M&As and Deals[1]



Greenfield FDI and Deals[1]



Private Participation in Energy Sector[2]

Total deals value = USD 1,267.0 million

Deal activity has been picking up post global financial crisis

1. Source: UNCTAD, World Investment Report 2012.

2. Source: World Bank (1990 – 2011).

3. Note: Value of M&A data include those deals that involve acquisition stake of more than 10.0%.

South Africa (SAPP)

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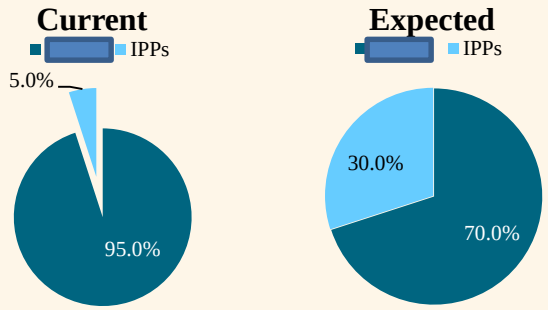
Regulatory Environment

Foreign Lending	▪ Lenders or their security agents are not required to be registered in South Africa in order to make loans or take security over assets. However, the exchange control department of South Africa's (Excon's) approval will be required in respect of the transfer of any shares into the name of a non-South African resident or the export of any proceeds following a realization of any security
Tax	▪ Corporate tax rate is applicable at 28.0% ▪ No withholding taxes in relation to interest payments and fees to foreign lenders on loans used by a project company, payment of principal on debt, or payments received under any agreements
Subsidies	▪ The government of South Africa offers a variety of levels of support for rural electricity supply. For XYZ Corp grid service, rural consumers (average consumption of 80-90 KWh per month) are granted the first 50 KWh per month free of charge. The cost of this is provided to XYZ Corp at the consumer rate of USD 2.9 per month
Repatriation, Currency Convertibility	▪ There are no restrictions on repatriating dividends provided that the share certificates issued in respect of the relevant shares held by the non-South African resident are clearly endorsed with the legend "non-resident shareholder". This endorsement can only be done by an authorized dealer appointed by Excon. There are no restrictions on domestic currency convertibility

Source: www.AfricaPowerGuide.com.

South Africa (SAPP)

IPP Market Share[1]



- While provision is made for IPPs to generate up to XX.0% of South Africa's total electricity output, the power generated will be mandatorily sold to to XYZ Corp , against any other users unifying to XYZ Corp designation as the single-buyer of electricity

IPPs in Pipeline[1]

IPP	Size (MW)	Fuel
Large IPPs (>40MW)		
Sasol	320.0	Natural Gas
Small IPPs (<40MW)		
Sappi	35.0	Cogen[2]
IPSA	13.0	Cogen
TSB Sugar	2.6	Cogen
Bethlehem Hydro	4.0	Hydro
Darling Wind Farm	5.0	Wind
IPPs seeking financial closure		
Suez peaker plant (Avon)	670.0	Natural Gas
Suez peaker plant (Dedisa)	335.0	Natural Gas

1. Source: Infrastructure Consortium for Africa.

2. Note: Cogen : Cogeneration is the use of a heat engine or a power station to simultaneously generate both electricity and useful heat.

South Africa (SAPP)

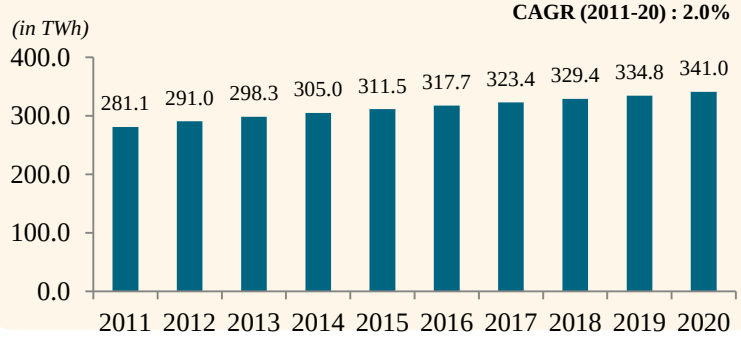
Challenges

Instability of Electricity Supply	▪ As a result of strong growth of industrial demand, especially in the energy intensive extractive sector, and lack of investment in new generating capacity coupled with low reserves, the country can face instability of electricity supply ▪ In 2008, electricity delivery to residential customers had to be stopped periodically to satisfy the needs of the industrial customers leading to supply disruption. Also, certain mines were shut down due to the electricity crisis, having an impact on the country's GDP
Tariff Increase	▪ XYZ Corp plans to double its capacity by 2026. It plans to achieve the funding by raising tariffs by 14.6% over the next five years. Also, tariffs have increased by 24.8%, 25.2% and 16.0% over the last three years, respectively
Monopoly of Eskom	▪ XYZ Corp determines the price at which it will purchase electricity from IPPs and is unwilling to enter into power purchasing agreements (PPAs) with IPPs because their cost of power generation is higher than what to XYZ Corp is willing to pay. This situation has led to many IPPs being forced to shelve their projects while to XYZ Corp retains its status as the sole purchaser of electricity

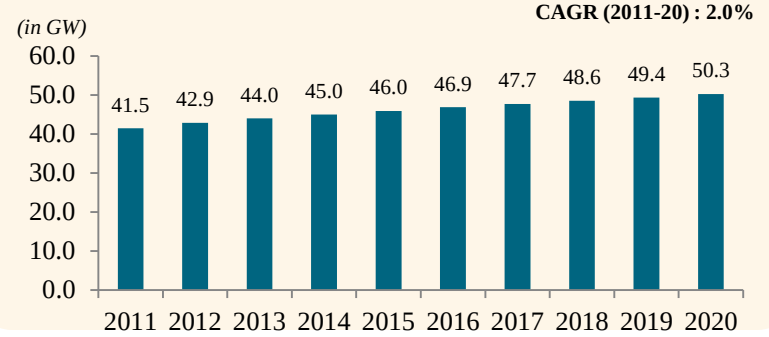
Source: Sub-Saharan Power Outlook, KPMG.

South Africa (SAPP)

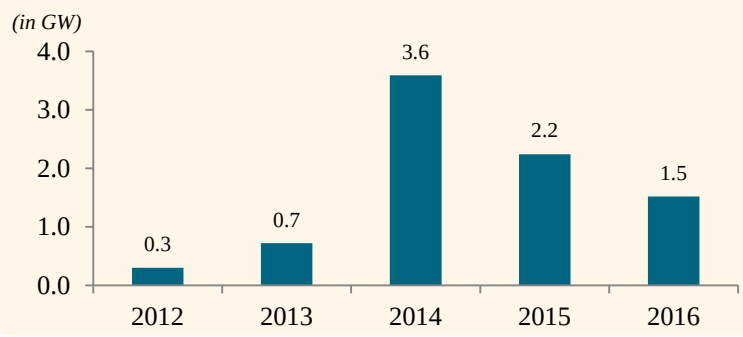
Demand Forecast



Required Minimum Capacity



Planned Generation Projects



Build Programme by XYZ

- South Africa's generation capacity is expected to increase from 44,258 MW to 85,000 MW between 2010 and 2030 to meet the projected demand

Source: SAPP Annual Report 2012.

Note: Required Minimum Capacity reflects the capacity required to satiate peak demand.

South Africa (SAPP)

XYZ Corp - Overview[1]

- XYZ Corp was established in South Africa in 20XX as the Electricity Supply Commission. In 20XX, it was converted into a public, limited liability company, wholly owned by government
- It is one of the top 20 utilities in the world by generation capacity. It generates approximately XX.0% of the electricity used in South Africa and approximately XX.0% of the electricity used in SSA

Operating Metrics[1]

	2010	2011	2012	CAGR
Installed capacity (MW)	40,870.0	41,194.0	41,647.0	0.9%
Coal capacity (%)	*84.8%*	*84.8%*	*85.0%*	*1.1%*
Gas capacity (%)	*5.9%*	*5.8%*	*5.8%*	*0.0%*
Capacity Utilization	*67.8%*	*69.0%*	*68.6%*	*0.6%*
Total electricity production (GWh)	242,871.0	248,914.0	250,454.0	1.5%
Own electricity production (%)	*95.9%*	*95.4%*	*94.7%*	1.0%
Foreign purchases (%)	*5.7%*	*6.2%*	*5.2%*	(2.6%)
IPP purchases (%)	*0.0%*	*0.0%*	*1.6%*	NA
Total electricity sales (GWh)	218,591.0	224,446.0	224,785.0	1.4%
No. of customers (in millions)	4.5	4.7	4.9	4.3%

Financial Highlights[1]

(USD million)	2010	2011	2012	CAGR
Income statement				
Revenues	9,111.8	12,692.8	15,469.6	30.3%
Electricity revenue per kWh	*4.2*	*5.7*	*6.9*	28.5%
EBITDA	1,655.1	3,276.9	4,196.3	59.2%
EBIT	922.8	2,274.9	3,009.9	80.6%
Interest expense	364.8	996.2	1,010.9	66.5%
Net profit	463.7	1,159.8	1,785.8	96.2%
Balance sheet				
Cash	2,102.2	1,765.7	2,528.3	9.7%
Total debt	14,427.5	23,495.4	23,799.6	28.4%
Total equity	9,498.9	12,746.8	13,402.4	18.8%
Total assets	33,294.7	47,935.4	49,703.6	22.2%

Ratios

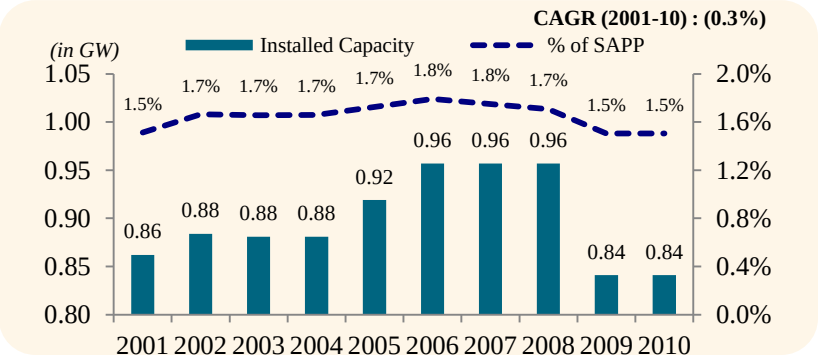
Ratio	2010	2011	2012
EBITDA margin	18.2%	25.8%	27.1%
EBIT margin	10.1%	17.9%	19.5%
Net profit margin	5.1%	9.1%	11.5%
ROAA	1.7%	2.9%	3.7%
ROAE	5.9%	10.4%	13.7%
Debt/Equity	1.5x	1.8x	1.8x
Interest coverage	2.5x	2.3x	3.0x
Net Debt/EBITDA	7.4x	6.6x	5.1x

1. Source: XYZ Corp Filings, Annual Reports.

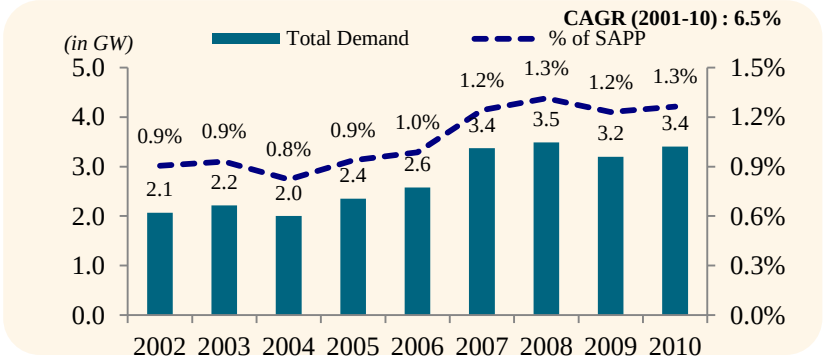
Tanzania (SAPP)

Tanzania (SAPP)

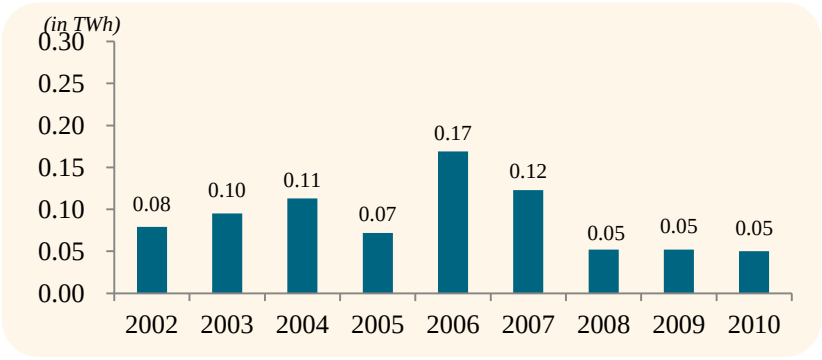
Total Installed Capacity[1]



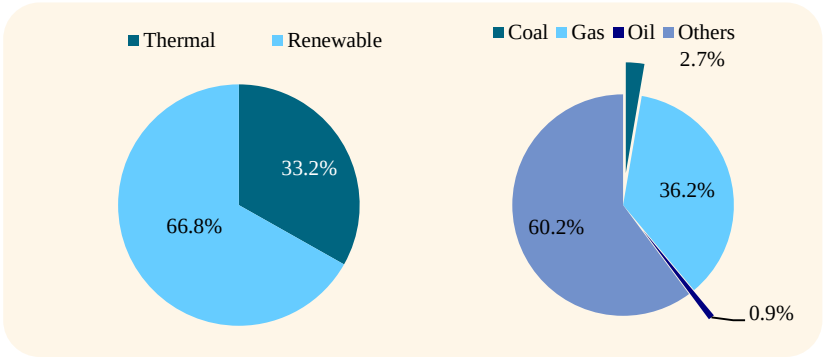
Total Demand[1]



Net Electricity Imports[1]



Generation Mix[1] & Domestic Output[2]



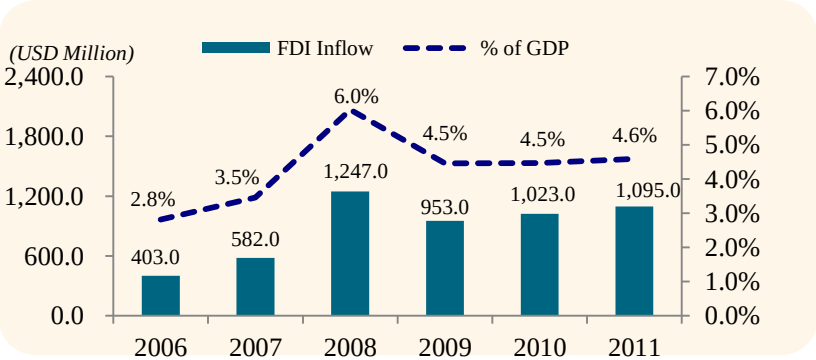
1. Source: EIA 2010. Generation mix represents the installed capacity.

2. Source: World Bank. Domestic output represents the total power generated.

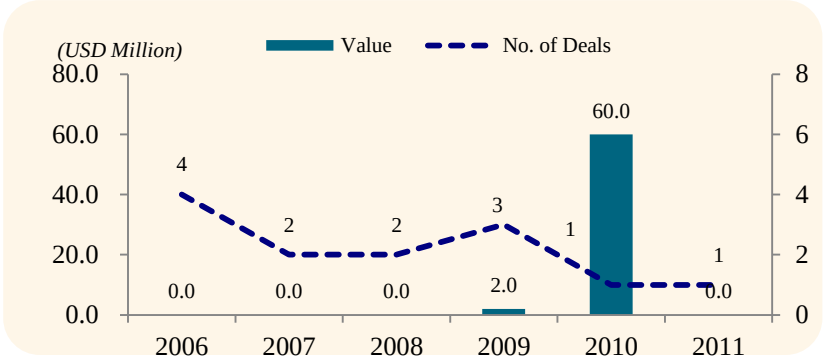
3. Note: Negative imports imply exports.

Tanzania (SAPP)

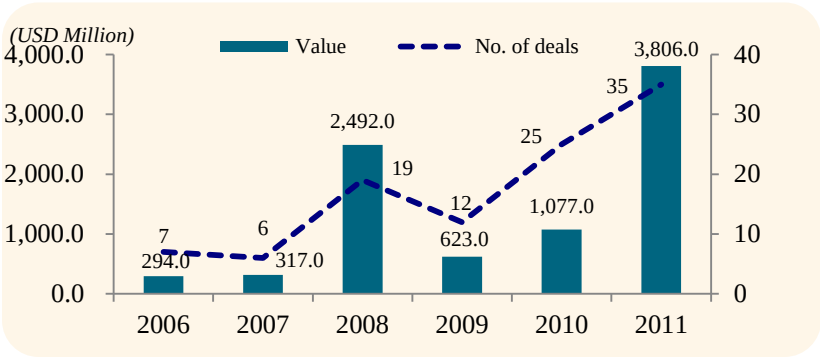
Net FDI Inflows[1]



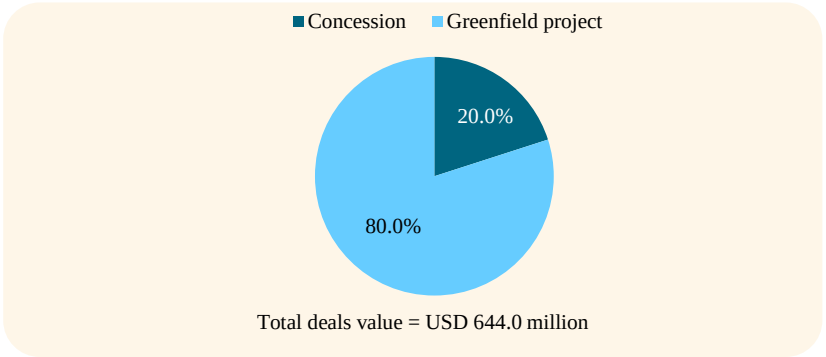
Cross-Border M&As and Deals[1]



Greenfield FDI and Deals[1]



Private Participation in Energy Sector[2]



Tanzania has recently witnessed an increase in the quantum of greenfield investments

1. Source: UNCTAD, World Investment Report 2012.

2. Source: World Bank (1990 – 2011). Concession: A private entity takes over the management of a state-owned enterprise for a given period during which it also assumes significant investment risk.

3. Note: Value of M&A data include those deals that involve acquisition stake of more than 10.0%.

Tanzania (SAPP)

Regulatory Environment

Foreign Lending	▪ There is no specific requirement for a lender/security agent to be registered in the jurisdiction. Although, the practice of one bank/institution taking security for and on behalf of a group of lenders has been used, this approach is not much tried and tested in Tanzania
Tax	▪ Prevailing corporate tax rate is 30.0% ▪ For companies that have at least 30.0% equity issued to the public, a corporate tax rate of 25.0% is applicable for first three years of listing ▪ Capital gains tax, dividend income received from non-resident company, interest income, royalty income, and rent income is levied at 30.0% ▪ Withholding tax on royalties paid to residents and non resident is 15.0%
Repatriation, Currency Convertibility	▪ A company incorporated or registered in Tanzania may hold foreign currency with banks in Tanzania. Repayment of loans and payment of dividends to foreign entities is permitted, but loans may require registration with the Bank of Tanzania. Money earned by foreigners whether by way of dividends or investment can be repatriated. There are no restrictions on convertibility of domestic currency

Source: www.AfricaPowerGuide.com.

Tanzania (SAPP)

Overview of IPP Market

- The organization responsible for electricity generation, transmission and distribution in Tanzania is the XYZ Corp
- The company is wholly government-owned. In 20XX, IPPs supplied as much as XX.0% of the total of electricity mainly due to a serious drought which was affecting the region
- Tanzania's Power System Master Plan has recognized that new power generation will come from IPPs

Current IPPs

Operational IPPs

Name	Type	Capacity (MW)
Independent Power Tanzania Ltd (IPTL)	Gas	100.0
SONGAS	Gas	120.0

Planned IPPs

Name	Type	Capacity (MW)
Kiwira	Coal	200.0
Ruhudji	Hydro	358.0
Mnazi Bay	Gas	300.0
Mchuchuma	Coal	400.0

Source: Infrastructure Consortium for Africa.

Tanzania (SAPP)

TresVista FINANCIAL SERVICES

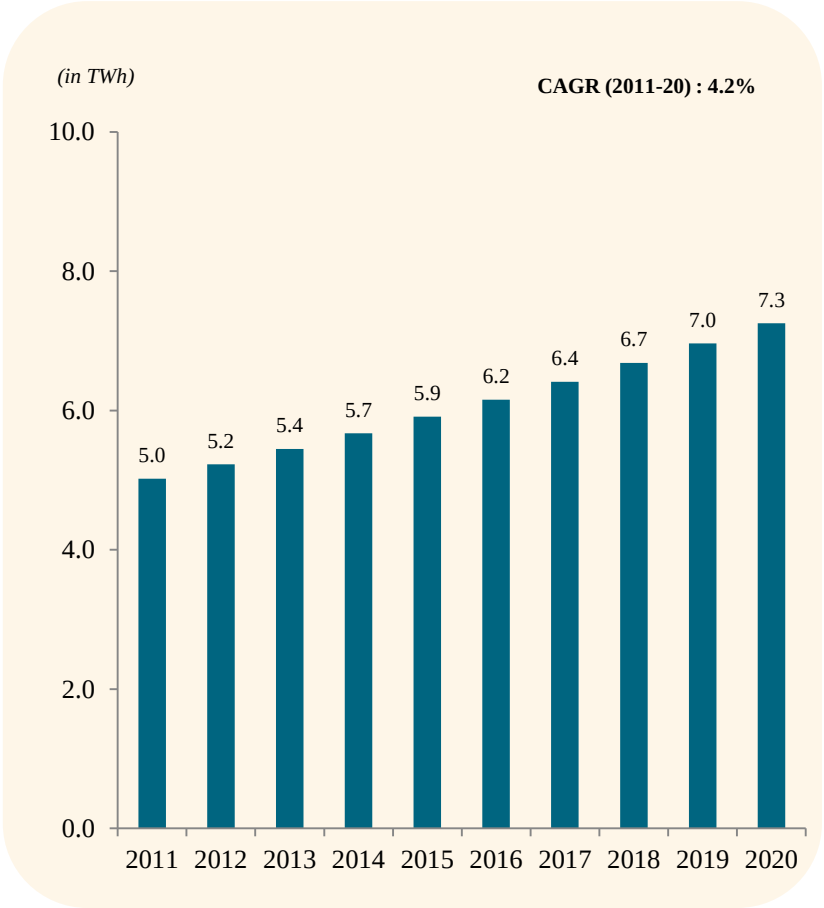
Challenges

Natural Calamities	▪ The country faces increased occurrence and intensity of droughts which has significantly reduced Tanzania's generating capacity
Low Electrification	▪ Tanzania's electrification rate stood at 14.0% in 2009. The country faces a major challenge of providing access to electricity to majority of the population, which is primarily concentrated in rural areas
Inadequate Resources	▪ Key challenges that Tanzania faces in accelerating progress in energy sector are securing financial resources and ensuring the supply of skilled labour force to meet the opportunity that is expected to emerge from expanded electrification
Monopoly of TANESCO	▪ The Government of ABC is not willing to relinquish control of XYZ Corp . The Govt believes that XYZ Corp's inefficiencies can be minimized through means other than comprehensive privatization of the state power utility. However, the prevailing power crisis provides irrefutable evidence of planning, implementation, and operational ineffectiveness on the part of both the Ministry of Energy and Minerals (MEM) and XYZ Corp

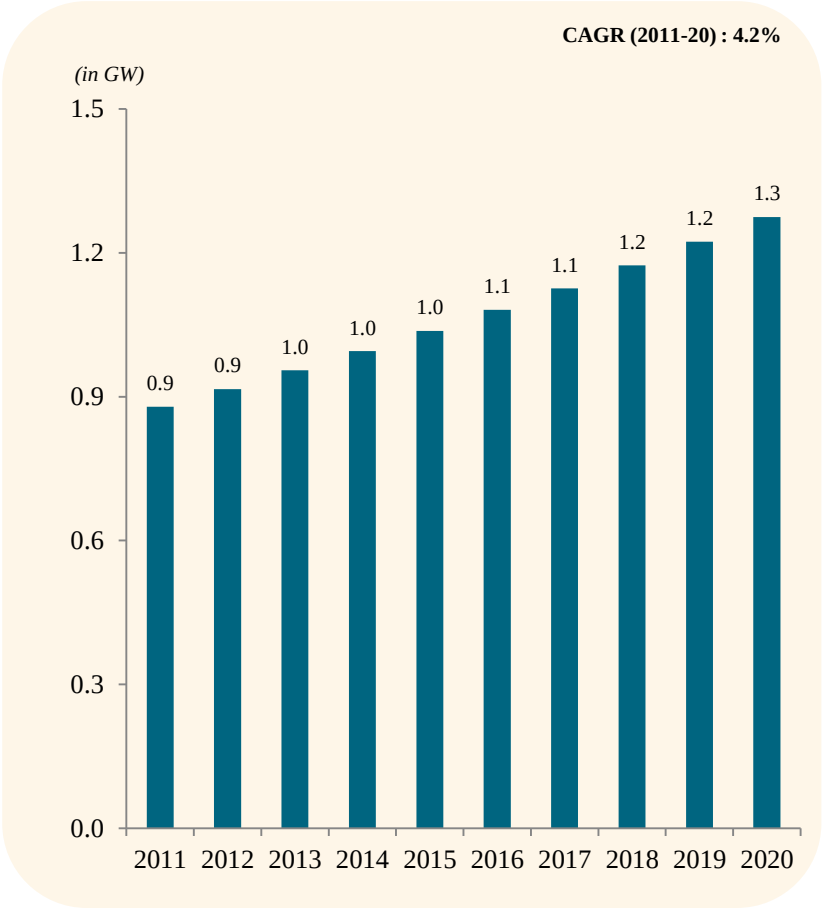
Source: Sub-Saharan Power Outlook, KPMG.

Tanzania (SAPP)

Demand Forecast



Required Minimum Capacity



1. Source: SAPP Annual Report 2012.

2. Research on Poverty Alleviation, Sill Gap International.

3. Note: Required Minimum Capacity reflects the capacity required to satiate peak demand.

Tanzania (SAPP)

XYZ Corp - Overview

- The organization responsible for electricity generation, transmission and distribution in Tanzania is XYZ Corp . The company is wholly government-owned and is responsible for XX.0% of the country's electricity supply
- As per the Power Sector Master Plan, the company plans to add the following projects by 20XX:

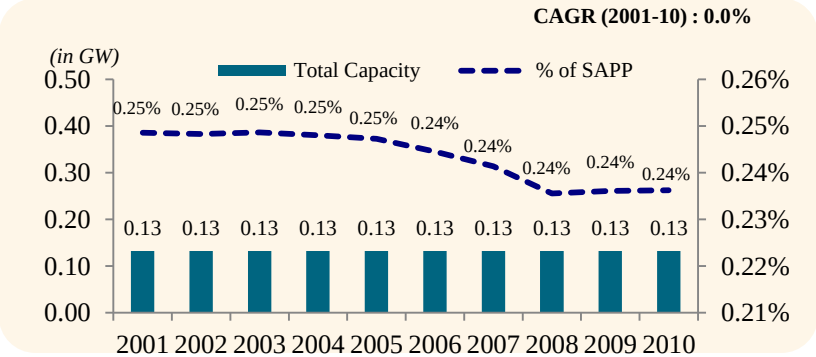
Plant Name	Type	Capacity	Estimated Cost (USD Million
Short Term (2010 - 2015)			
Kiwira	Coal	200.0	274.0
Ubungo Emergency Power Project	Gas	100.0	100.0
Kinyerezi	Gas	240.0	216.0
		540.0	**590.0**
Medium Term (2016 - 2021)			
Mnazi Bay	Natural Gas	300.0	660.0
Mtwara Artumas	Natural Gas	12.0	27.0
		312.0	**687.0**
Long Term (2022 - 2033)			
Ngaka	Coal	400.0	840.0
Mchuchuma I & II	Coal	400.0	840.0
Nyasa	Coal	200.0	600.0
		1,000.0	**2,280.0**

Source: Company Website, Company Overview, Annual Reports.

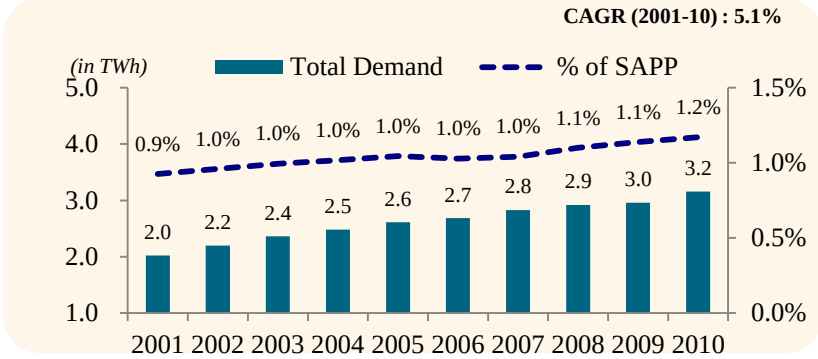
Botswana (SAPP)

Botswana (SAPP)

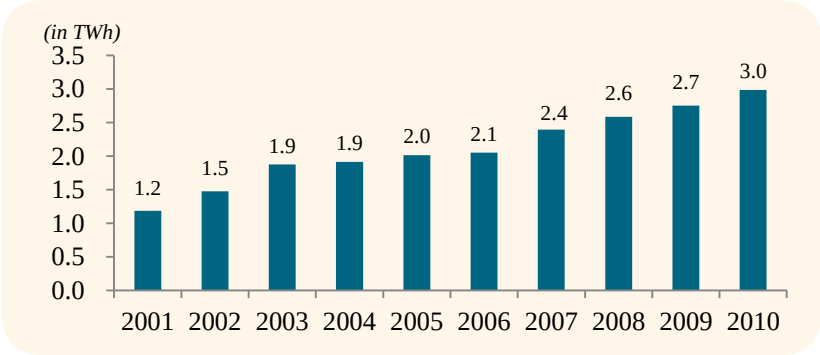
Total Installed Capacity[1]



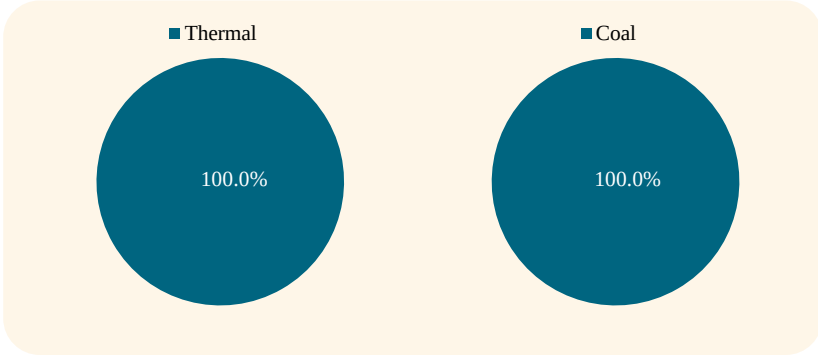
Total Demand[1]



Net Electricity Imports[1]



Generation Mix[1] & Domestic Output[2]



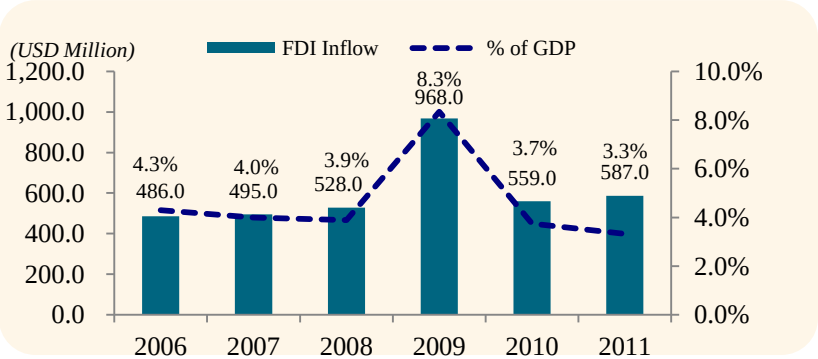
1. Source: EIA 2010. Generation mix represents the installed capacity.

2. Source: World Bank. Domestic output represents the total power generated.

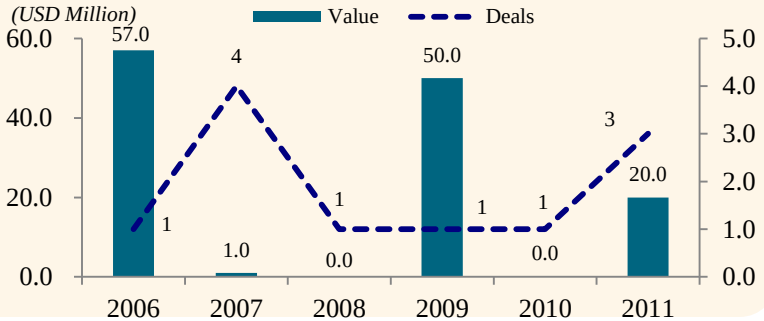
3. Note: Negative imports imply exports.

Botswana (SAPP)

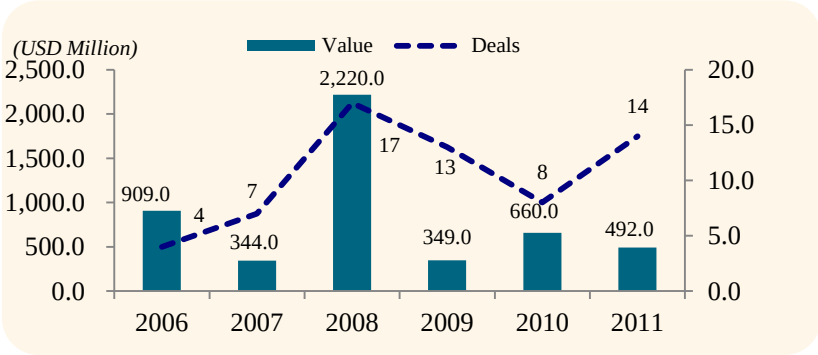
Net FDI Inflows[1]



Cross-Border M&As and Deals[1]



Greenfield FDI and Deals[1]



Private Participation in Energy Sector[2]

Greenfield projects have been dominant across the investment environment

1. Source: UNCTAD, World Investment Report 2012.

2. Source: World Bank (1990 – 2011).

3. Note: Value of M&A data include those deals that involve acquisition stake of more than 10.0%.

Botswana (SAPP)

Regulatory Environment

Foreign Investments	▪ Botswana was ranked again as Africa's least corrupt country by Transparency International in 2010, and is actually ahead of many countries in Europe and Asia ▪ Botswana has maintained an open market economic policy. There are no restrictions on flows of foreign exchange ▪ Foreign firms have the same legal protections as domestic firms
Incentives for local manufacturers	▪ On tendering, 30% of government budget is reserved for local manufacturers
Tax	▪ Deductible training rebate of 200.0% ▪ Company profits are taxed at 30.0%. Negotiable tax holiday up to 10 years maximum ▪ Foreign dividends are taxable at 15.0%, Capital gains at 22.0%

1. Source: http://www.sadc.int/information-services/tax-database/botsw/.
2. Source: http://www.botswanaembassy.or.jp/business/index4.html.

Botswana (SAPP)

Overview of IPP Market

- Botswana is expected to host a hive of electrical power infrastructure development activity if the country moves seriously to plug a gap to be left when its supply from South Africa's XYZ Corp ceases as expected in 20XX
- Botswana's electricity industry is expected to grow significantly with additional power generation capacities of 600.0 MW coming on stream in 2012-13
- New power generation capacities are expected to be based on coal, given the large untapped deposits of almost 200.0 billion tonnes available in the country
- These will most likely be owned by independent power producers (IPPs) given the limited financial means available to the loss-making state-owned power utility, XYZ Corp

Pipeline IPPs

Power Plant	Fuel Type	Capacity (MW)
IPP		
Mookane domestic power project	Coal	300.0
Mmamabula energy project	Coal	1,200.0
Mmashoro	Gas and diesel	90.0
Mmashoro	Gas	180.0
BPC		
Morupule B Power Station	Coal	600.0

1. Source: US Aid, Electricity supply industry of Botswana Report, May 2008.

2. Source: XYZ Corp website and Annual Reports.

Botswana (SAPP)

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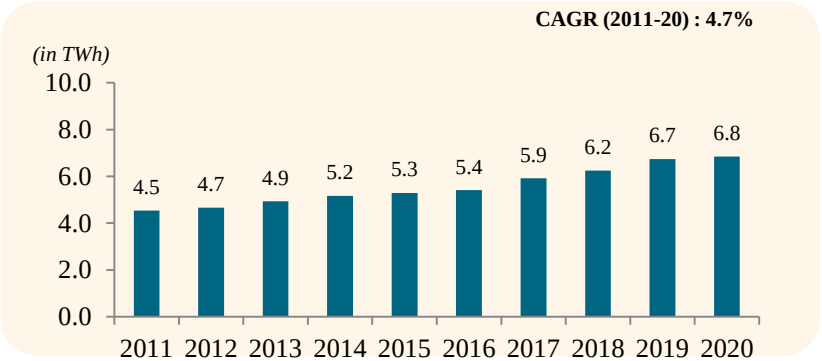
Challenges

Self-Sufficiency	▪ In 2009, Botswana's own power production covered only 13.0% of electricity demand. It has relied on South Africa to meet its growing demand for electricity
Access to Financing Needs	▪ Botswana is likely to face a critical investment shortfall where it will require an estimated USD 750.0 million to meet the electricity demand within the next five years
Low Returns on Investments	▪ 39.0% of the population of Botswana is situated in the rural areas. Providing them with access to electricity will require significant capital investment. More than 50.0% of villages in Botswana have an IRR of less than 6.0%, which is the threshold set by XYZ Corp to break even in 20 years
Government Control	▪ Electricity in Botswana is supplied by XYZ Corp , a government owned company. XYZ Corp controls the network of transmission and distribution lines to transport electricity from the power station, or point of import to eventual consumers ▪ In 2007, the government amended the energy supply act to facilitate the participation of independent power producers (IPPs) in the electricity sector. Since XYZ Corp has the control of the transmission lines, the power has to be sold to XYZ Corp

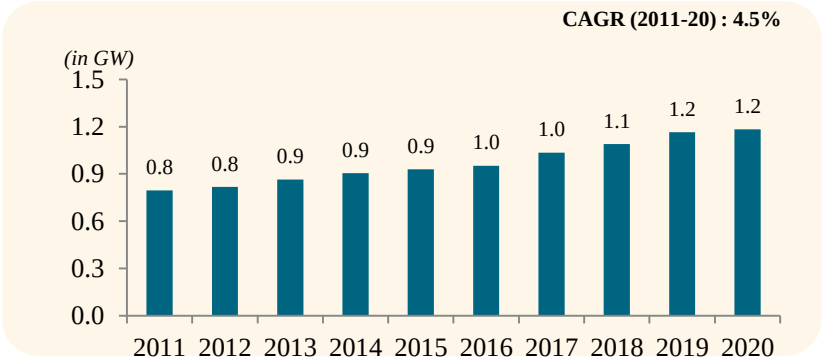
Source: Sub-Saharan Power Outlook, KPMG.

Botswana (SAPP)

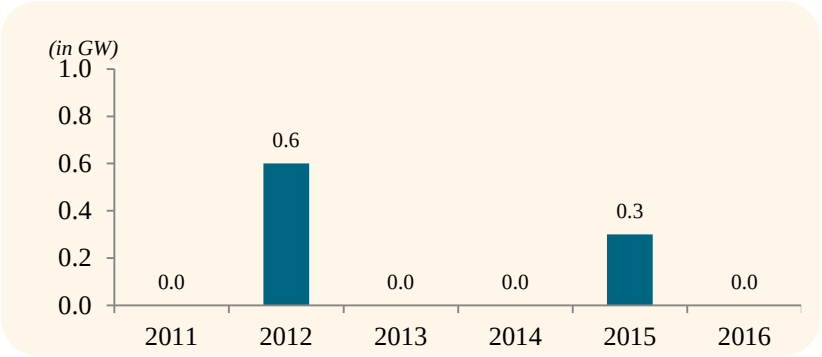
Demand Forecast



Required Minimum Capacity



Planned Generation Projects



Source: SAPP Annual Report 2012.

Note: Required Minimum Capacity reflects the capacity required to satiate peak demand.

Botswana (SAPP)

Botswana Power Corporation - Overview[1]

- XYZ Corp was formed in 19XX by an Act of Parliament responsible for the generation, transmission and distribution of electricity
- The Corporation, within the 41 years of its existence, has developed from a small, oil-fired power station which was commissioned in 19XX and dismantled in 19XX, to a thermal power station

Operating Metrics[1]

	2009	2010	2011	CAGR
Installed capacity (MW)	132.0	132.0	132.0	(0.0%)
Coal capacity (%)	*100.0%*	*100.0%*	*100.0%*	(0.0%)
Total electricity production (GWh)	3,298.2	3,441.8	3,551.6	3.8%
Own electricity production (%)	*16.7%*	*13.3%*	*10.5%*	(17.8%)
Purchases (%)	*83.3%*	*86.7%*	*89.5%*	7.6%
Total electricity sales (GWh)	2,917.0	3,151.0	3,118.0	3.4%
No. of customers (in millions)	0.199	0.214	0.252	12.5%

Financial Highlights[1]

(USD million)	2009	2010	2011	CAGR
Income statement				
Revenues	150.4	168.1	227.8	23.1%
Electricity revenue per kWh	*5.2*	*5.3*	*7.3*	19.0%
EBITDA	25.3	21.3	41.3	27.8%
EBIT	(52.9)	(83.4)	(23.0)	NM
Interest expense	3.6	0.5	0.3	(69.7%)
Net profit	(18.8)	(232.8)	(120.0)	NM
Balance sheet				
Cash	0.0	137.1	26.3	NM
Total debt	15.8	226.1	669.8	550.6%
Total equity	839.2	789.9	793.0	(2.8%)
Total assets	1,086.9	1,587.2	2,239.7	43.5%

Ratios

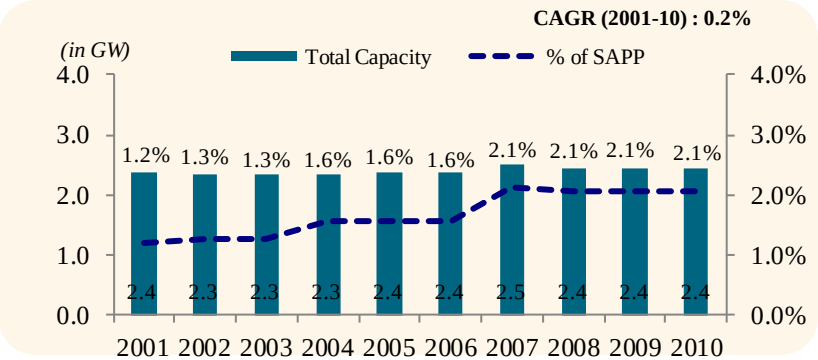
Ratio	2009	2010	2011
EBITDA margin	16.8%	12.7%	18.1%
EBIT margin	(35.2%)	(49.6%)	(10.1%)
Net profit margin	(12.5%)	(138.5%)	(52.7%)
ROAA	(1.8%)	(17.4%)	(6.3%)
ROAE	(2.3%)	(28.6%)	(15.2%)
Debt/Equity	0.0x	0.3x	0.8x
Interest coverage	(14.9x)	(154.7x)	(70.5x)
Net Debt/EBITDA	0.6x	4.2x	15.6x

1. Source: Company Website, Company Filings, Annual Reports.

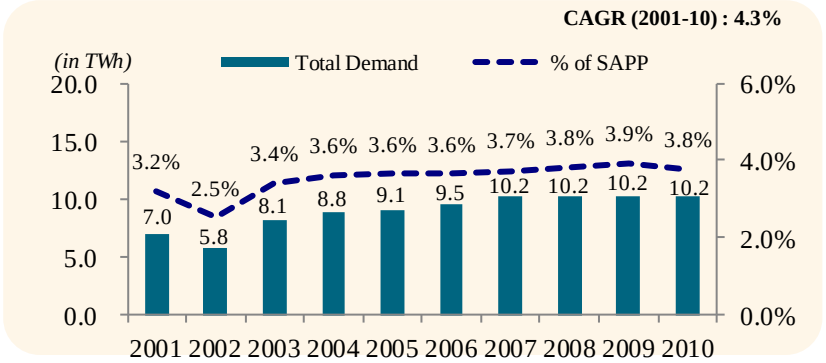
Mozambique (SAPP)

Mozambique (SAPP)

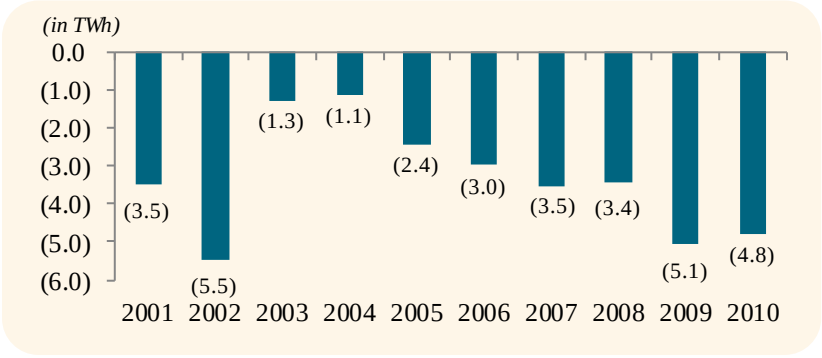
Total Installed Capacity[(1)]



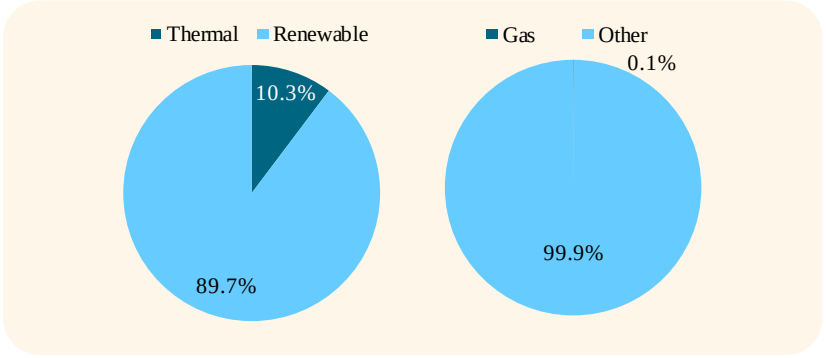
Total Demand[(1)]



Net Electricity Imports[(1)]



Generation Mix[(1)] & Domestic Output[(2)]



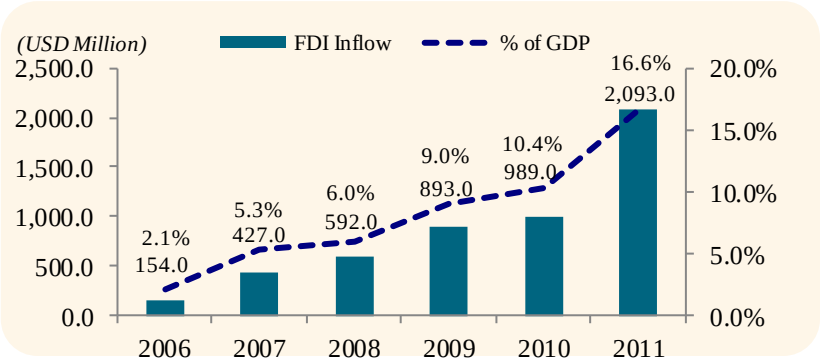
1. Source: EIA 2010. Generation mix represents the installed capacity.

2. Source: World Bank. Domestic output represents the total power generated.

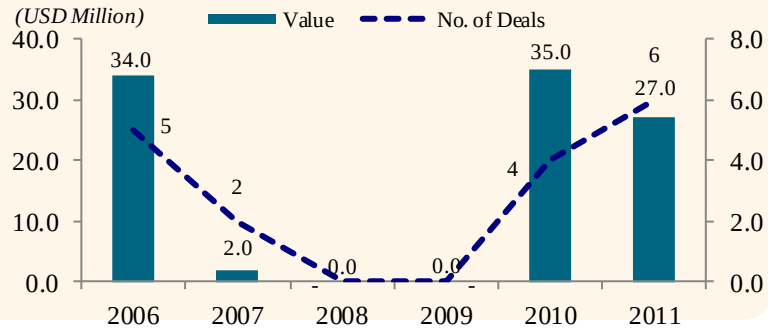
3. Note: Negative imports imply exports.

Mozambique (SAPP)

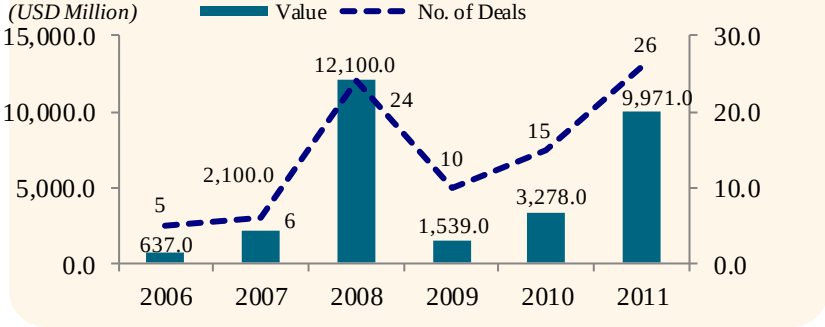
Net FDI Inflows[1]



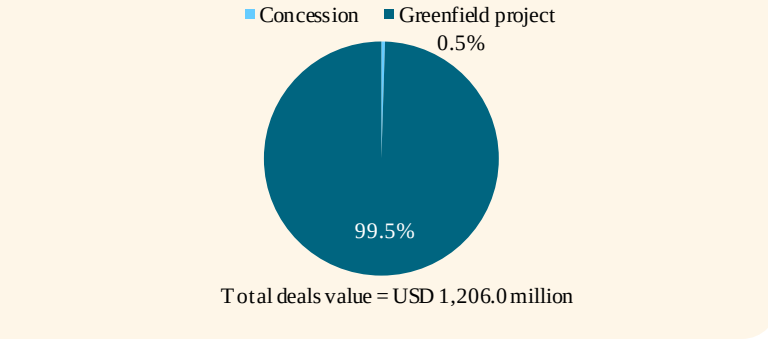
Cross-Border M&As and Deals[1]



Greenfield FDI and Deals[1]



Private Participation in Energy Sector[2]



Investment activity has risen over the last 5 years

1. Source: UNCTAD, World Investment Report 2012.

2. Source: World Bank (1990 – 2011).

3. Note: Value of M&A data include those deals that involve acquisition stake of more than 10.0%.

Mozambique (SAPP)

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Regulatory Environment

Banking Regulations	▪ The legal regime allows the import of capital by lenders to the project. However, the relevant loan is subject to prior approval and registration with Bank of Mozambique for forex control purposes
Tax	▪ The standard company tax rate is 32.0% ▪ Applies foreign tax credit to avoid double taxation which can be carried forward for 5 years ▪ Dividends are subject to withholding tax of 20.0% for private companies and 10.0% for listed companies ▪ Royalties are subject to 20.0% withholding tax unless the recipient countries fall under the double tax avoidance treaty with Mozambique
Repatriation, Currency Convertibility	▪ There are no restrictions on repatriation of dividends ▪ Non-resident entities are allowed to open and operate foreign exchange bank accounts in Mozambique through a local financial institution, but the balance of such accounts cannot be converted and transferred abroad

Source: www.AfricaPowerGuide.com.

Mozambique (SAPP)

IPP Overview

- The main electricity authority is XYZ Corp , established by the state in 19XX. XYZ Corp is responsible for generation, transmission and distribution, but majority of the electricity is generated by XYZ Corp, an IPP. Mozambique is gradually widening its energy mix with both gas-fired and coal-fired power stations in the pipeline

Future IPPs[(1)]

Power Plant	Fuel Type	Capacity (MW)	Expected Date of Commission	Expected Cost (USD million)
Ncondezi	Coal	300.0*6	2017-2020	3,024.0
Sasol	Gas	140.0	2013	210.0
Aggreko, Shanduka	Gas	107.5	2014	280.0
Camargo Corrêa Moçambique, Energia Capital and Mozambique's government	Hydro	1,500.0	2017	2,000.0
Cahora Bassa (HCB)	Hydro	800.0-1200.0	NA	NA

Current IPPs[(1)]

Power Plant	Fuel Type	Capacity (MW)	Date of Commission	Cost (USD million)
Cahora Bassa (HCB)	Hydro	2,075.0	1976	NA

Source: http://allafrica.com/stories/201204110037.html

Mozambique (SAPP)

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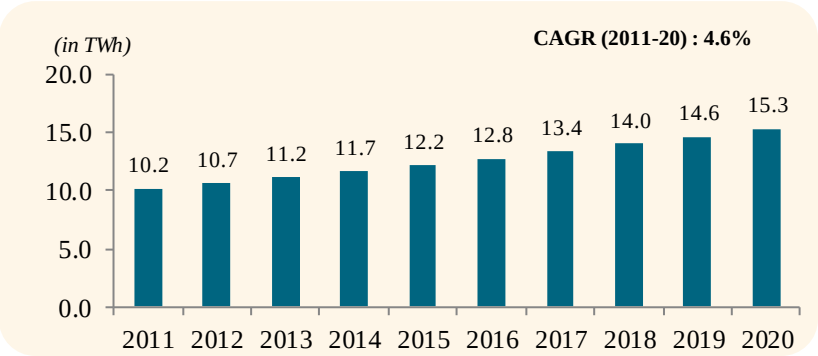
Challenges

Financing Needs	▪ Electricity demand from rural areas and the manufacturing sector is expected to increase rapidly. The country could face a critical investment shortfall as the approximate cost associated with the power generation projects are USD 5.0 billion by 2015
Poor Infrastructure	▪ Mozambique has been affected by devastating wars for approximately three decades which has left the country's infrastructure damaged and chronically underdeveloped. Direct transmission lines from Cahora Bassa hydroelectric dam (largest power plant) to Maputo (main consumptions state) are non existent. Therefore, electricity produced has to be routed through South Africa and then imported back
Affordability	▪ Mozambicans rely heavily on non-commercial energy, or traditional forms of energy (biomass such as wood and charcoal) due to low affordability. This is reflected in the electrification rate which is one of the lowest in the continent (15.0%)

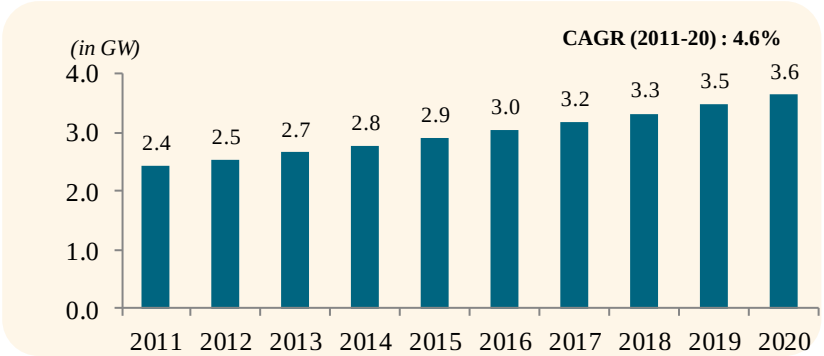
Source: Sub-Saharan Power Outlook, KPMG.

Mozambique (SAPP)

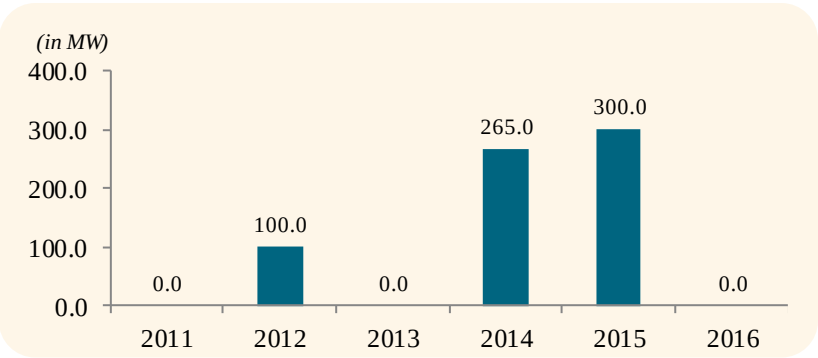
Demand Forecast



Required Minimum Capacity



Planned Generation Projects



Source: SAPP Annual Report 2012.

Note: Required Minimum Capacity reflects the capacity required to satiate peak demand.

Mozambique (SAPP)

XYZ Corp - Overview[1]

- Was incorporated on June 24, 19XX, under the protocol concluded between ABC and LMN. This project is located in STU, District of GHI
- As per XYZ Corp's Strategic Plan for 2010-2014, the company has the following projects in pipeline
  - Project to Rehabilitate the Spillways
  - North Bank Power Station Project
  - Project to Rehabilitate the Substation
  - Project to Inspect the HVDC Transmission Lines

Operating Metrics[1]

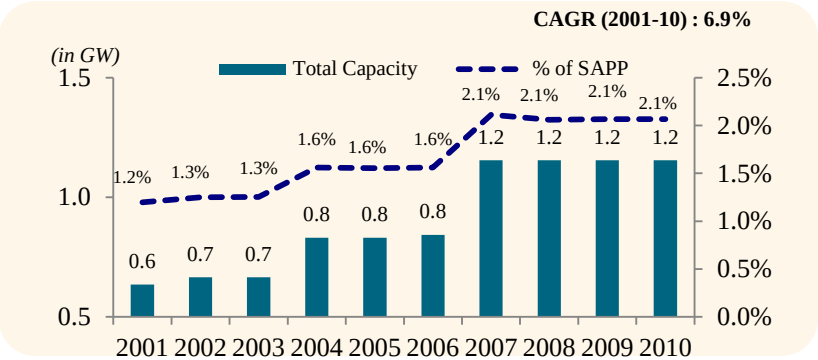
No. of Generators	Capacity per Generator (MW)	Total Capacity
5.0	415.0	2,075.0

1. Source: http://www.hcb.co.mz

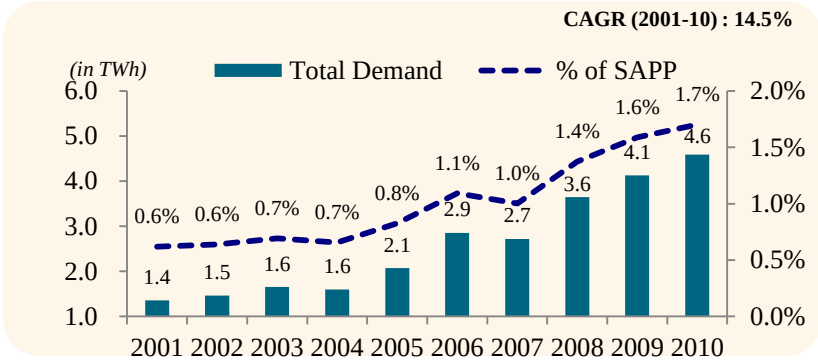
Angola (SAPP)

Angola (SAPP)

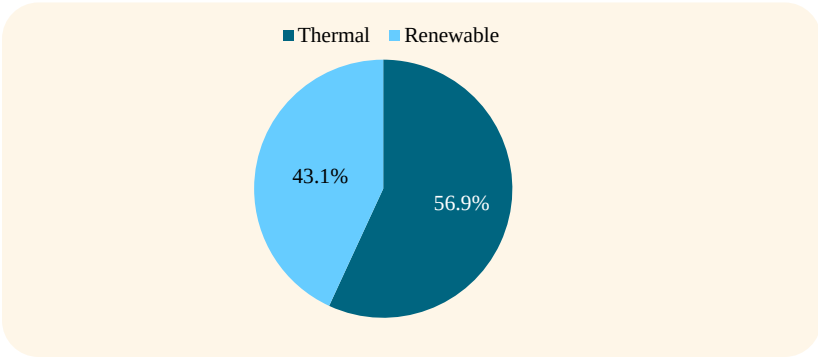
Total Installed Capacity[1]



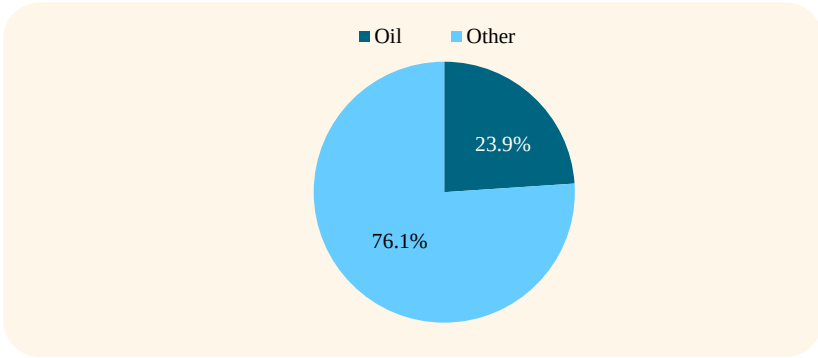
Total Demand[1]



Generation Mix[1]



Domestic Output[2]

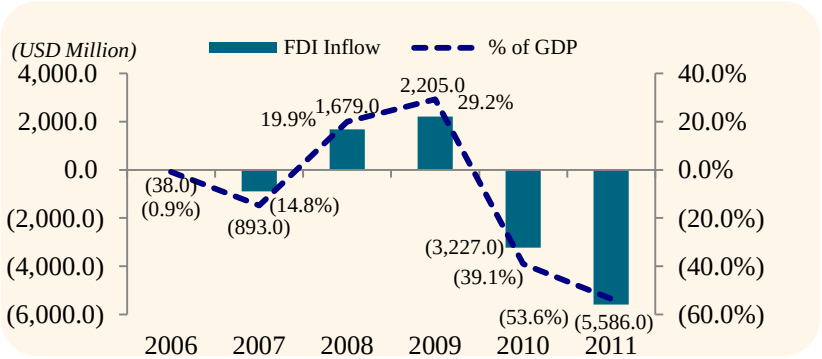


1. Source: EIA 2010. Generation mix represents the installed capacity.

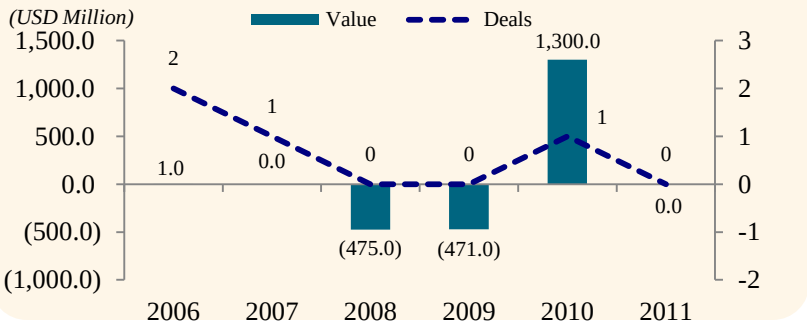
2. Source: World Bank. Domestic output represents the total power generated.

Angola (SAPP)

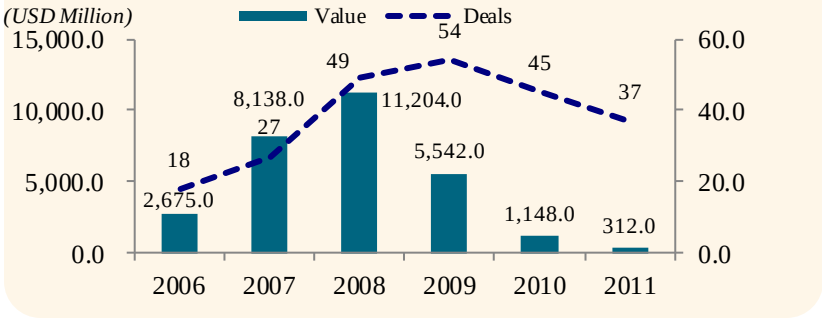
Net FDI Inflows[1]



Cross-Border M&As and Deals[1]



Greenfield FDI and Deals[1]



Private Participation in Energy Sector[2]

Angola has witnessed growing interest in greenfield investments

1. Source: UNCTAD, World Investment Report 2012.

2. Source: World Bank (1990 – 2011).

3. Note: Value of M&A data include those deals that involve acquisition stake of more than 10.0%.

Angola (SAPP)

Regulatory Environment

Legislations	▪ The General Electricity Law, 1996, sets out general legal principles for the generation, transmission, distribution and consumption of power activities ▪ The generation, transmission, and production of power for public consumption are reserved to the State. Private sector companies can enter in power generation only by means of PPA agreements with the state owned companies
Taxation	▪ The standard corporate income tax rate is 35.0% ▪ A 10.0% withholding tax is levied on dividends paid to a resident or non-resident
Regulations	▪ The Regulatory Office of the Power Sector (Instituto Regulador do Sector Electrico - "IRSE") is the entity that regulates the power sector in Angola ▪ A project company that wants to build and operate a power plant in Angola must obtain key licences such as the Certificate of Registration of Private Investment and an operation licence or concession, granted by the local authorities or the Council of Ministers, respectively

Source: Africa Power Guide.

Angola (SAPP)

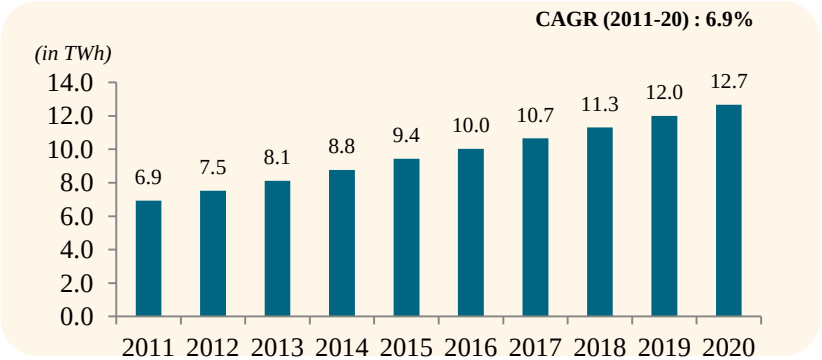
Challenges

Poor Infrastructure	▪ Deficient transmission and distribution infrastructure prevents electricity from flowing to customers, and the reliability of supply remains very poor ▪ Angola has three major electric systems that are not interconnected, each operating independently ▪ The northern system, serving Luanda, accounts for over 80.0% of the country's generation assets, while the central and southern systems have less than 10.0% each
Inefficient Systems	▪ ENE's technical and nontechnical losses are ~18.0% – 23.0% ▪ Nontechnical losses are largely due to pilfering through illegal connections, lack of meters, and faulty billing system ▪ Non-payment and ineffective collection of power bills seriously impedes financial performance
Low Tariffs	▪ Power tariffs in Angola are low even by the standards of other hydropower-dependent countries ▪ Apart from discouraging investment, low power prices meant to benefit the poor, largely subsidize the better-off minority that live in larger cities covered by the grid, while the poor remain unconnected

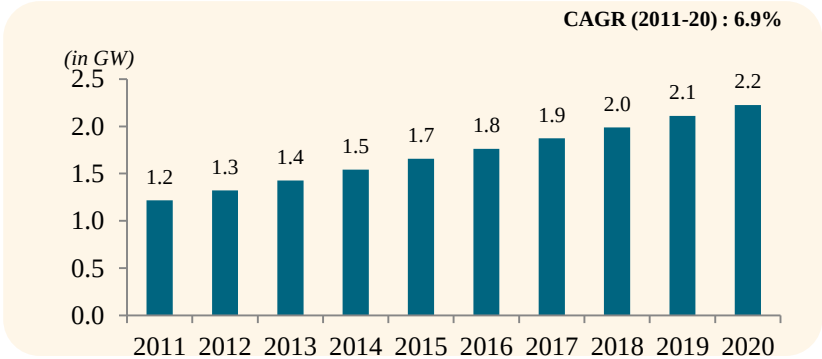
Source: Article, http://www.glob.co.zw, August 24, 2011.

Angola (SAPP)

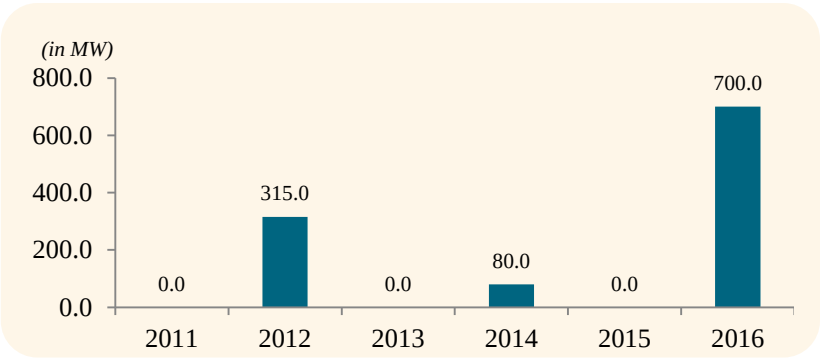
Demand Forecast



Required Minimum Capacity



Planned Generation Projects



1. Source: SAPP Annual Report 2012.

2. Note: Required Minimum Capacity reflects the capacity required to satiate peak demand.

Angola (SAPP)

XYZ Corp – Overview

- XYZ Corp is the state-owned company of Angola and focuses on the generation, transmission, distribution, and marketing of electricity
- The company has 2,086.0 km of transmission lines and also undertakes power trading through South African Power Pool (SAPP)
- Most of the electricity generated by the company is hydro powered

Company Plants

Power Plant	Fuel Type	Capacity (MW)
Luanda OCGT Power Plant	Gas	148.0
Mabubas Dam	Hydro	17.8
Biopio	Hydro	14.4
Lomaum Dam	Hydro	35.0
Matala Dam	Hydro	40.8
Chicapa-1 Dam	Hydro	16.0
Capanda Dam	Hydro	520.0
Cambambe Dam	Hydro	180.0

Independent Power Producers (IPPs)

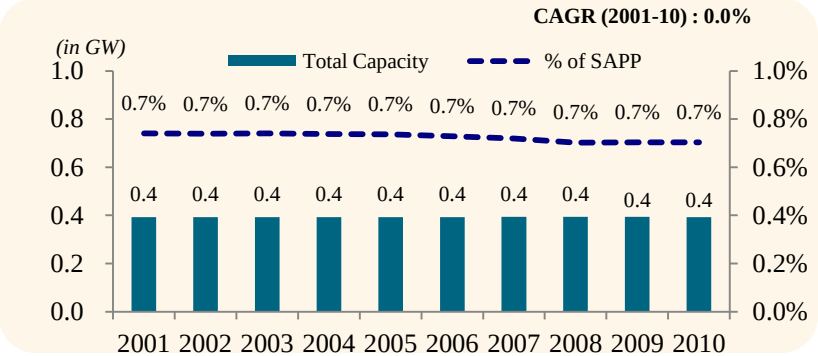
- The XYZ is the only IPP in Angola
- It is a joint project between Russian construction company ABC and LMN with ABC'S stake at XX.0% and LMN's at XX.0%
- The project is 100.0% financed by ABC

Source: Dow Jones Factiva Companies and Executive.
Source: Global Energy Observatory.

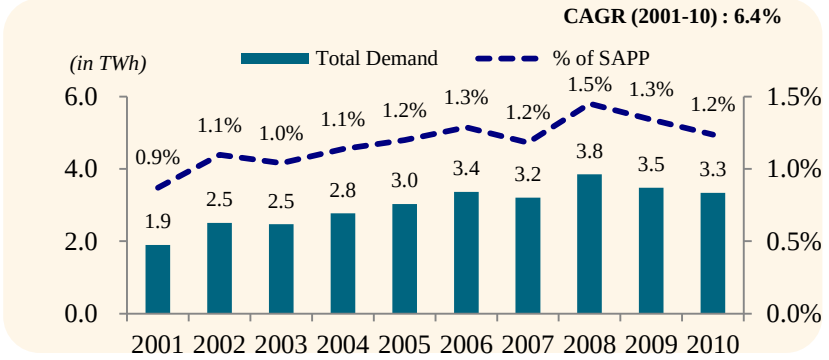
Namibia (SAPP)

Namibia (SAPP)

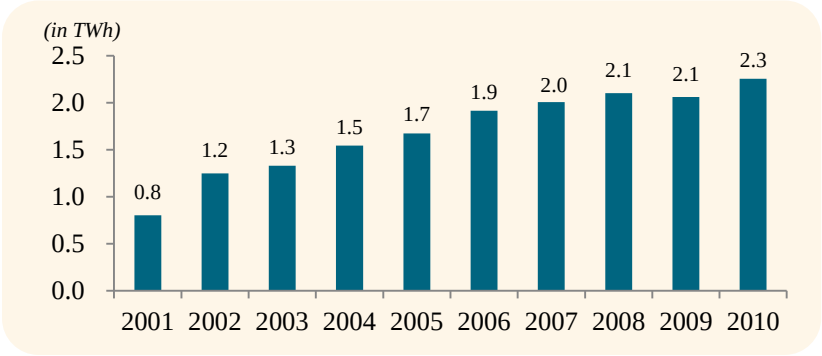
Total Installed Capacity[1]



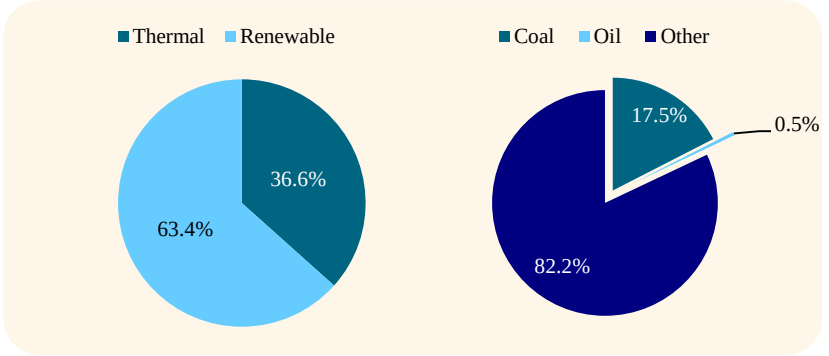
Total Demand[1]



Net Electricity Imports[1]



Generation Mix[1] & Domestic Output[2]



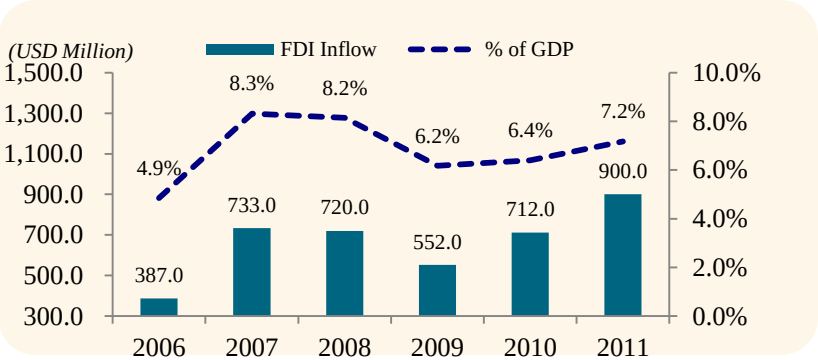
1. Source: EIA 2010. Generation mix represents the installed capacity.

2. Source: World Bank. Domestic output represents the total power generated.

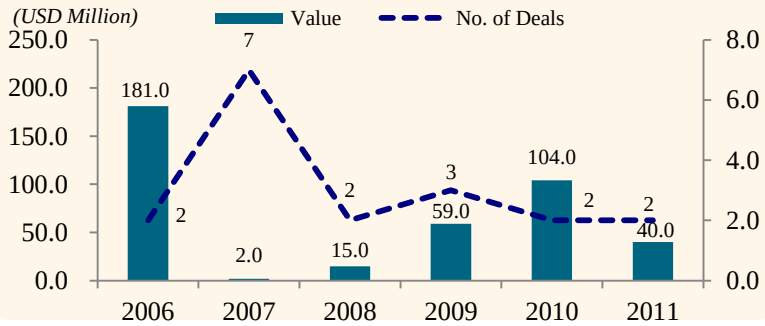
3. Note: Negative imports imply exports.

Namibia (SAPP)

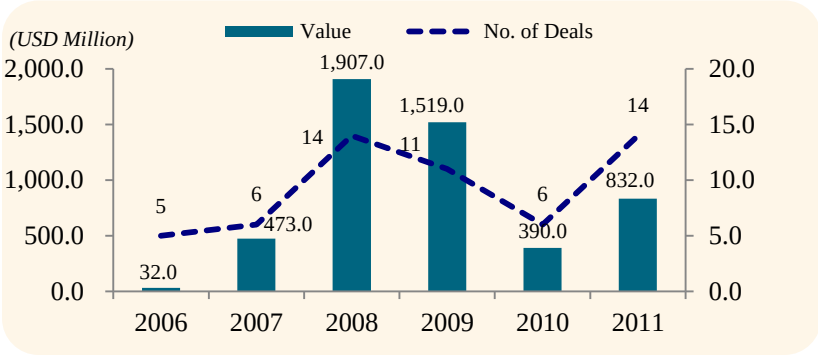
Net FDI Inflows[1]



Cross-Border M&As and Deals[1]



Greenfield FDI and Deals[1]



Private Participation in Energy Sector[2]

Namibia has been consistently attracting significant FDI inflows, especially greenfield investments

1. Source: UNCTAD, World Investment Report 2012.

2. Source: World Bank (1990 – 2011).

3. Note: Value of M&A data include those deals that involve acquisition stake of more than 10.0%.

Namibia (SAPP)

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Regulatory Environment

Legislations	▪ The Electricity Act, 2000 (Amended in 2007) established the Electricity Control Board to regulate and exercise control over provision, use and consumption of electricity in Namibia ▪ Companies require licenses under this act in order to carry out generation, trading, transmission, supply, distribution, and import-export of electricity
Foreign Lending	▪ The Foreign Investment Act, 1993, governs the foreign investment in Namibia and provides for liberal foreign investment conditions, equal treatment of foreign and local investors, openness of all sectors to foreign investment, no local participants required, and obtaining a certificate of Status Investment ▪ Status Investments are certain foreign investments which are allowed to buy convertible foreign currency freely, repatriate profits on sale of a business (or part) to a Namibian resident, repatriate dividends after deductions of non-resident shareholders' tax, repatriate any reduction in share capital
Taxation	▪ The corporate tax rate in Namibia is 35.0%. Tax is levied only on income derived from sources within Namibia ▪ Relief is granted only if provided in a tax treaty (Double Taxation Agreement)

Source: Electricity Control Board, Namibia. Business and Investment Guide for Namibia, PWC.

Namibia (SAPP)

TresVista FINANCIAL SERVICES

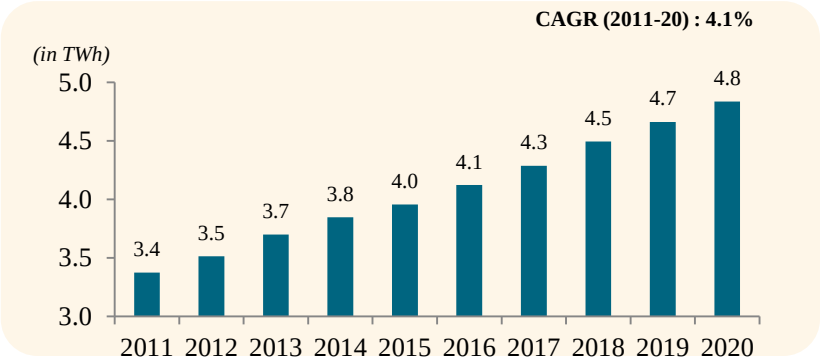
Challenges

Imports	▪ Namibia imports more electricity than it produces. The declining surplus capacity within the Southern African Power Pool has exposed the country to a degree of insecurity in relation to future supply
Complex Distribution	▪ The country has over 20 different entities that distribute electricity, which are mostly municipalities, and each municipality can add its own discretionary tax on electricity consumption to fund the provision of other municipal services
Low Tariffs	▪ The country's retail tariffs have yet to reach cost-reflective levels, which is a bad sign for investors

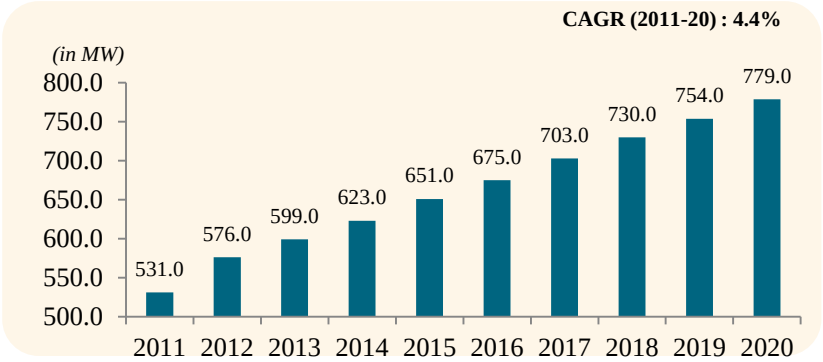
Source: Namibia: Seeking Independent Power Producers.

Namibia (SAPP)

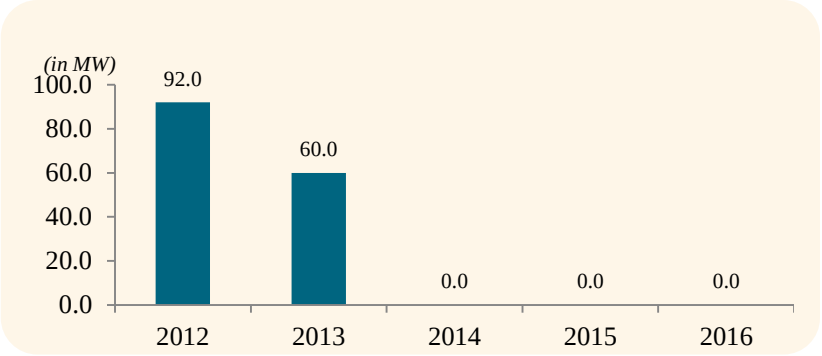
Demand Forecast



Required Minimum Capacity



Planned Generation Projects



Source: SAPP Annual Report 2012.

Note: Required Minimum Capacity reflects the capacity required to satiate peak demand.

Namibia (SAPP)

TresVista FINANCIAL SERVICES

XYZ Corp - Overview[1]

- XYZ Corp is the national power utility of Namibia and specializes in the generation and transmission of electricity
- The Company's main sources of power are the coal-fired XXX Power Station, the hydroelectric plant at the XXX falls, and the standby diesel-driven XXX Power Station
- XYZ Corp has the sole procurement right to electricity generated by an IPP

Operating Metrics[1]

	2009	2010	2011	CAGR
Installed capacity (MW) [3]	393.0	393.0	393.0	0.0%
Capacity Utilization	*105.1%*	*109.4%*	*113.6%*	
Total electricity production (GWh)	3,618.0	3,767.0	3,910.0	4.0%
Own electricity production (%)	*41.2%*	*34.6%*	*36.6%*	(5.8%)
Foreign purchases (%)	*58.8%*	*65.4%*	*63.4%*	3.8%
Total electricity sales (GWh)	3,358.0	3,431.0	3,543.0	2.7%
No. of customers	2,631.0	2,651.0	2,738.0	2.0%

Financial Highlights[1]

(USD million)	2009	2010	2011	CAGR
Income statement				
Revenues	10.1	11.7	14.8	21.2%
Electricity revenue per kWh	*0.30*	*0.34*	*0.42*	18.0%
EBITDA	4.9	2.9	4.5	(3.6%)
EBIT	3.3	1.4	0.2	(72.9%)
Interest expense	0.7	1.1	1.3	37.2%
Net profit	4.1	1.8	1.1	(47.6%)
Balance sheet				
Cash	3.8	1.2	6.5	31.1%
Total debt	9.8	18.0	16.4	29.4%
Total equity	50.7	51.7	72.6	19.7%
Total assets	83.6	94.1	124.8	22.2%

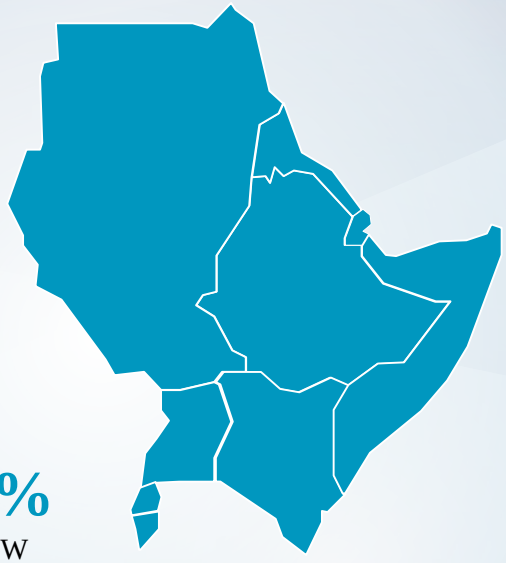
Ratios

Ratio	2009	2010	2011
EBITDA margin	48.2%	24.8%	30.5%
EBIT margin	33.3%	11.6%	1.7%
Net profit margin	40.8%	15.1%	7.6%
ROAA	4.9%	2.0%	1.0%
ROAE	8.3%	3.5%	1.8%
Debt/Equity	0.2x	0.3x	0.2x
Interest coverage	4.8x	1.2x	0.2x
Net Debt/EBITDA	1.2x	5.8x	2.2x

1. Source: Guidelines for Independent Power Producers, CBEND.
2. Source: Company Filings, Annual Reports.
3. Note: Installed Capacity excludes 600.0 MW of Caprivi Link Interconnector.
4. Note: Interest coverage = EBIT/ Interest Expense. For 2008, ROAA and ROAE are not calculated on average assets and equity, respectively.

EAPP

Eastern Africa Power Pool



9.1%

7.1 GW

Eastern African Power Pool (EAPP)

Eastern African Power Pool (EAPP)

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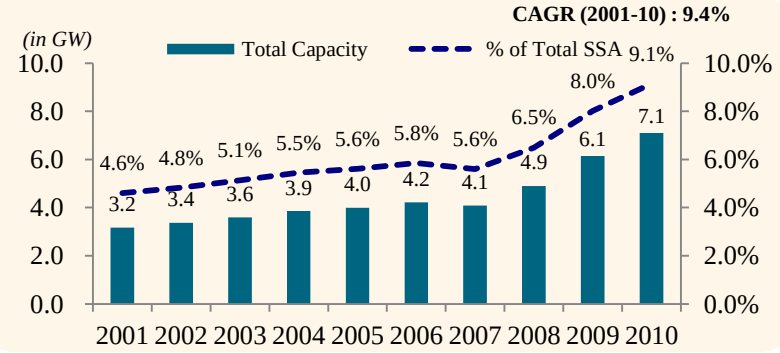
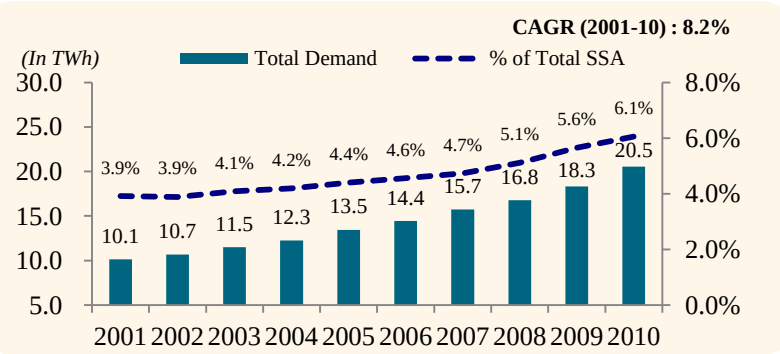
Installed Capacity[1]

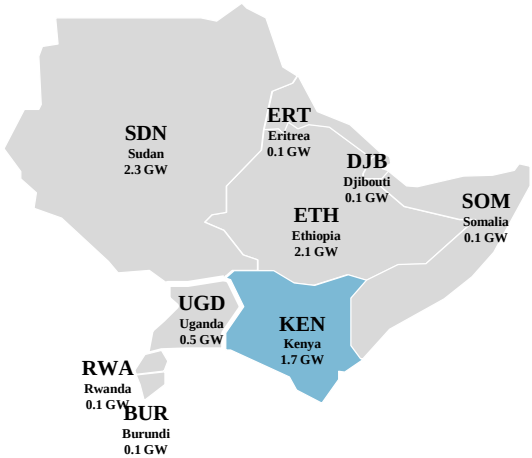


Total Demand[1]



Member Nations & Installed Capacity

# of Countries:	9
Population[2]:	197.3 mln
Current GDP[2]:	$113.2 bln
2011 Real Growth[3]:	3.9%
Current GDP/Capita:	$573.7



Installed Capacity of Selected Countries = 23.9% of EAPP

EAPP has witnessed a higher growth in installed capacity over the growth for energy demanded

1. Source: EIA, 2010.
2. Source: IMF, www.tradingeconomics.com; Population excludes Somalia.
3. Source: World Bank Data. Excludes Somalia's GDP.
4. Note: Egypt is a part of EAPP but is excluded from the analysis since it is not part of Sub-Saharan Africa.

Eastern African Power Pool (EAPP)

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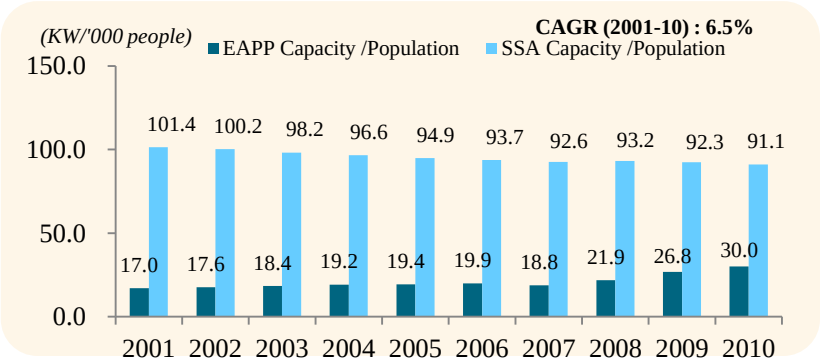
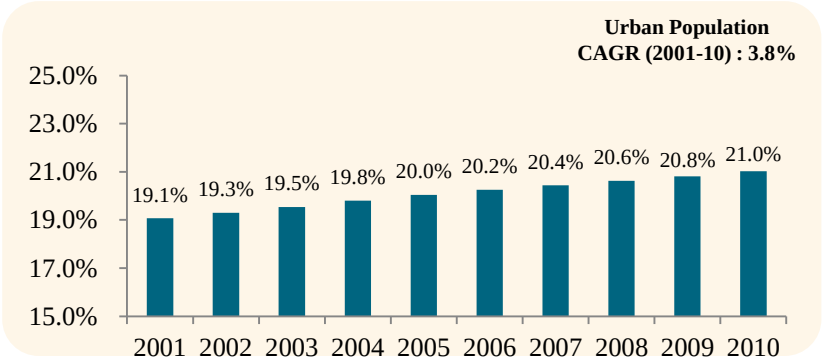
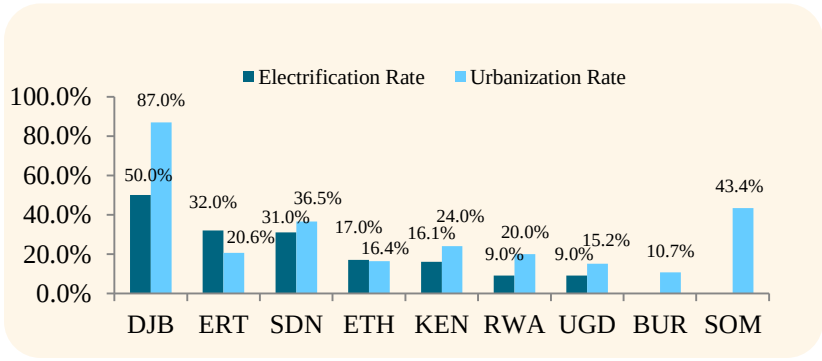
Installed Capacity/Population[1]



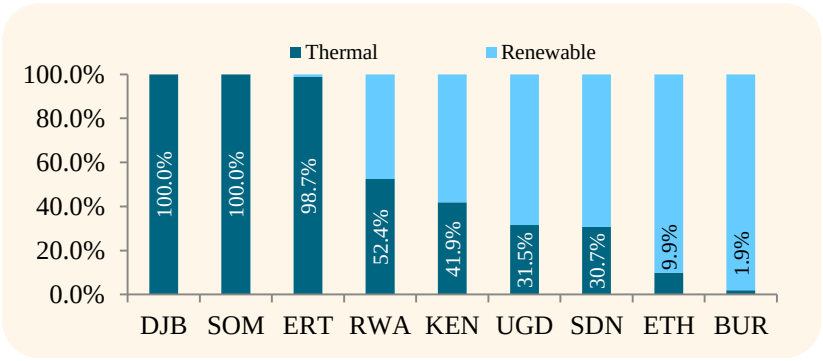
Urbanization[2]



Electrification & Urbanization Rates[3]



Generation Mix[1]



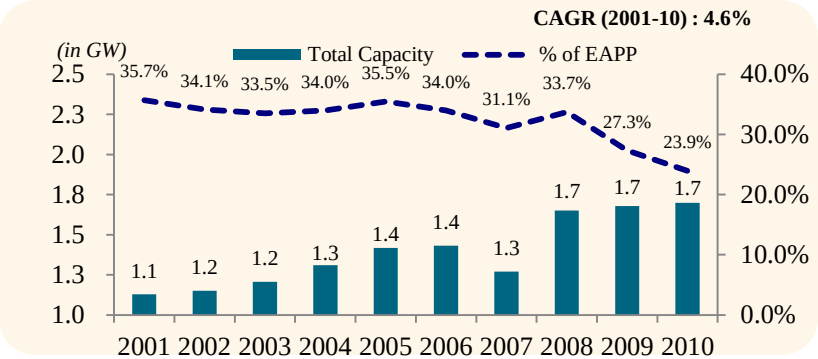
Unlike other pools, EAPP has been able to add capacity at a rate higher than its population growth

1. *Source: EIA, 2010, IMF. Population for Djibouti, Somalia and Sudan and South Sudan is taken from World Bank.*
2. *Source: World Bank.*
3. *Source: IEA World Economic Outlook, 2011; World Bank. Electrification rates for Burundi and Somalia are not available.*

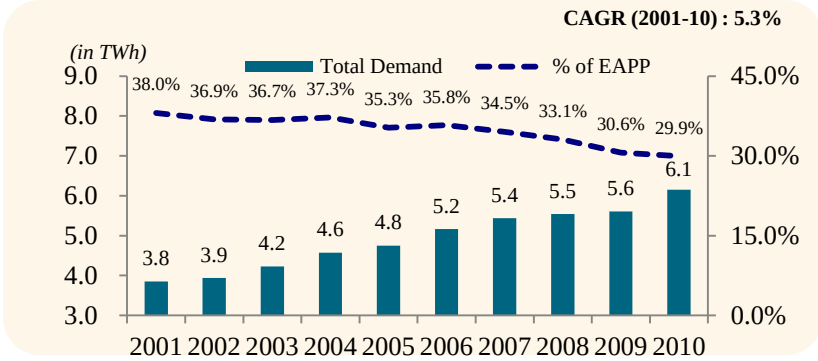
Kenya (EAPP)

Kenya (EAPP)

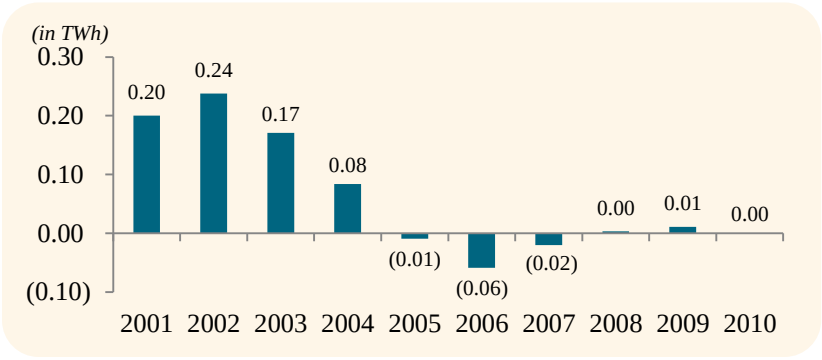
Total Installed Capacity[1]



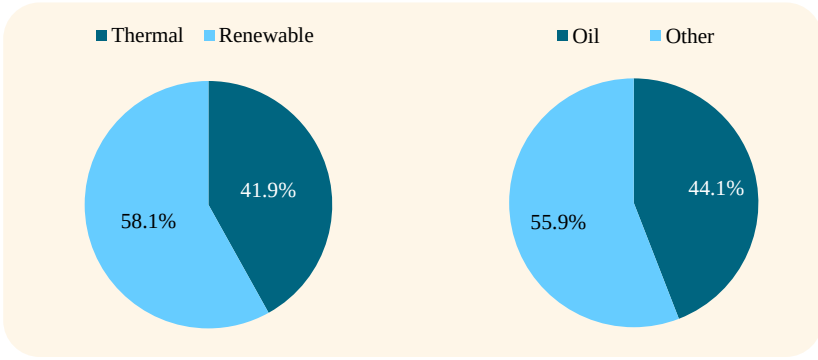
Total Demand[1]



Net Electricity Imports[1]



Generation Mix[1] & Domestic Output[2]



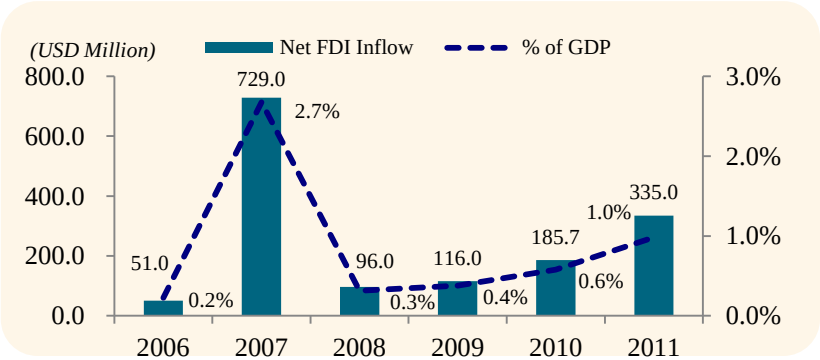
1. Source: EIA 2010. Generation mix represents the installed capacity.

2. Source: World Bank. Domestic output represents the total power generated.

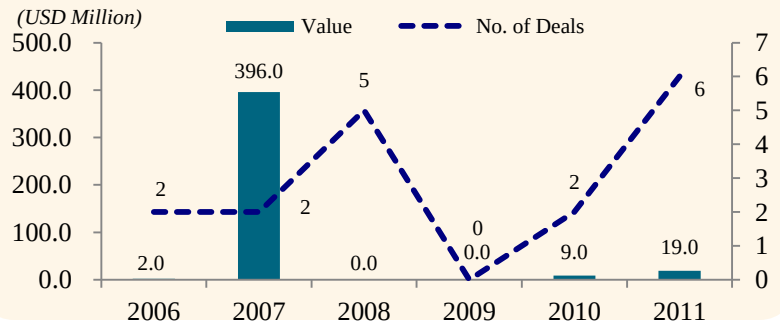
3. Note: Negative imports imply exports.

Kenya (EAPP)

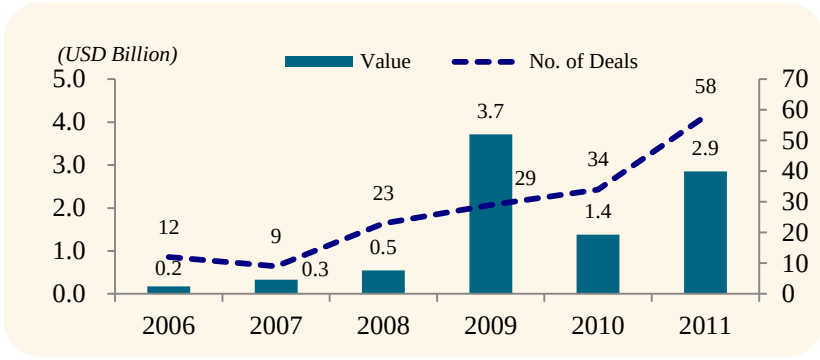
Net FDI Inflows[1]



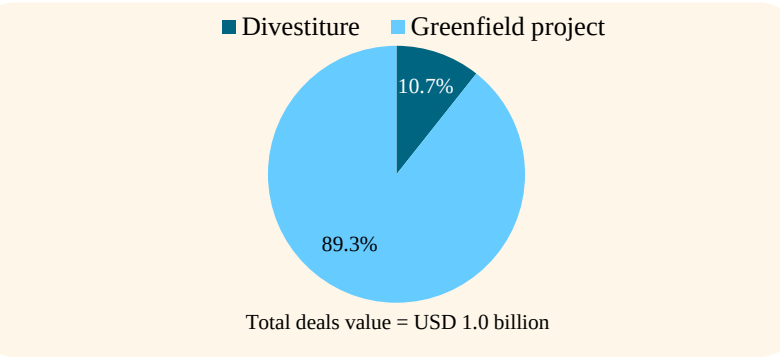
Cross-Border M&As and Deals[1]



Greenfield FDI and Deals[1]



Private Participation in Energy Sector[2]



Kenya has seen significant greenfield investments over the last few years

1. Source: UNCTAD, World Investment Report 2012.

2. Source: World Bank (1990 – 2011).

3. Note: Value of M&A data include those deals that involve acquisition stake of more than 10.0%.

Kenya (EAPP)

Regulatory Environment

Legislations	▪ The energy sector of Kenya is governed by The Energy Act, 2006 ▪ The Energy Regulatory Commission was established under the act to regulate importation, exportation, generation, transmission, distribution, supply, and use of electrical energy
Foreign Capital	▪ The Investment Promotions Act, 2004 setup the Kenya Investments Authority to carry out the implementation of the objectives stated in the Act ▪ Under the Act, for a foreign investor to qualify for an investment certificate, the minimum value of his proposed investment is USD 100,000.0 or the equivalent in another currency ▪ The Foreign Investments Protection Act was established to protect foreign investment made in Kenya
Taxation	▪ The country's non-resident corporate tax rate is 37.5% ▪ Withholding tax is payable on dividends, interest, royalties and management fees ▪ Kenya has double taxation relief agreements with the United Kingdom, Canada, Denmark, Norway, Sweden, Germany, Zambia, and India ▪ A special VAT rate of 12.0% applies to the supply of electricity and fuel which is otherwise at 16.0%

Source: Investing in Kenya, 2009, Africa Legal Network.

Kenya (EAPP)

Independent Power Producers (IPP)

- Kenya is one the few African nations to have IPPs working with a state-owned generator to provide electricity for domestic consumption

IPP	Capacity (MW)	Cost (USD Million)	Fuel Type
Westmont	46.0	65.0	Gas
Iberafrica	56.0	35.0	Diesel
Tsavo	75.0	86.0	Diesel
OrPower4	48.0	159.0	Geothermal
Rabai	90.0	155.0	Oil

Source: An analysis of IPPs in Africa, November 2011 - The Infrastructure Consortium for Africa.

Kenya (EAPP)

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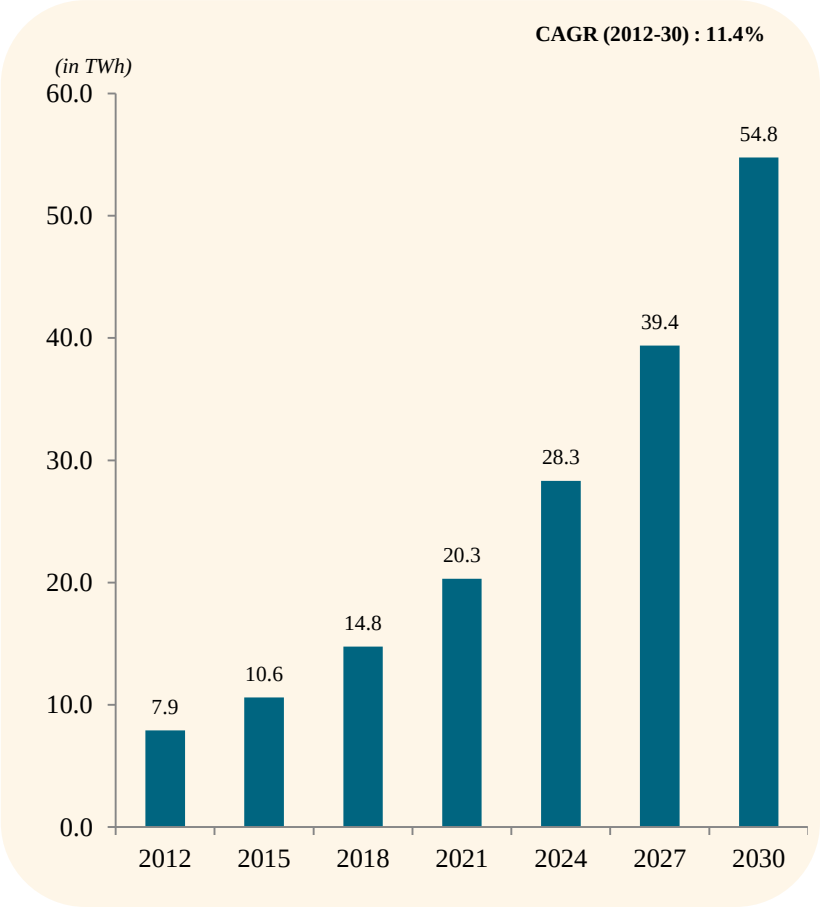
Challenges

Hydro Dependency	▪ Kenya has a high dependency on hydro power which is often unreliable, especially in the dry seasons ▪ Due to this the country has to resort to expensive diesel generators to fulfill the shortage the electricity
Distribution Monopoly	▪ Kenya Power has a monopoly over the electricity distribution in the country ▪ The inefficient distribution of the company often leaves the residents and industries powerless for hours at stretch
Financing	▪ A key challenge for the country is to mobilizing resources required to finance infrastructure investments over a short time period, especially in the wake of the global economic recession and the financial crisis
Ineffective Enforcement	▪ The regulators (EPC and MPC) lack independence (both political and economic) to effectively enforce competition-related regulations in the electricity sub-sector ▪ They also do not have adequate technical staff to effectively enforce economic and competition related regulations in the power sector

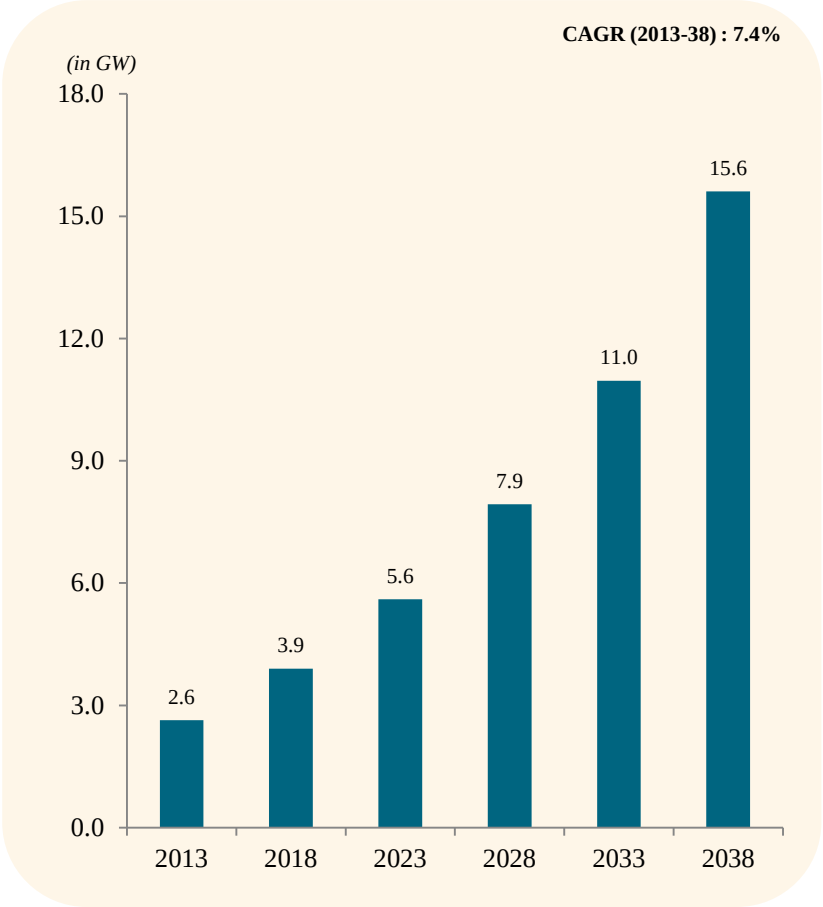
Source: Regulatory and Competition-Related Reforms in Kenya's Power and Petroleum Sectors, Investment Climate and Business Environment Research Fund, October 2009.

Kenya (EAPP)

Demand Forecast[1]



Required Minimum Capacity[2]



1. Source: Least Cost Power Development Plan, March 2011, Ministry of Energy – Kenya.

2. Source: EAPP Master Plan Report 2011.

3. Note: Required Minimum Capacity reflects the capacity required to satiate peak demand.

Kenya (EAPP)

XYZ Corp - Overview[1]

- XYZ Corp, is the leading electric power generation company in Kenya, producing around 80.0% of electricity consumed in the country
- The company utilizes hydro, geothermal, thermal, and wind resources to generate electricity with hydro being the leading source, having an installed capacity of 766.9 MW

Operating Metrics[2]

	2010	2011	2012	CAGR
Installed capacity (MW)	1,056.0	1,147.4	1,230.7	8.0%
Capacity Utilization	*39.1%*	*49.3%*	*51.0%*	
Total electricity production (GWh)	3,619.0	4,958.0	5,497.0	23.2%
Total electricity sales (GWh)	3,596.0	4,933.0	5,404.0	22.6%

Financial Highlights[2]

(USD million)	2010	2011	2012	CAGR
Income statement				
Revenues	138.6	169.8	179.2	13.7%
Electricity revenue per kWh	*3.85*	*3.44*	*3.32*	(7.2%)
EBITDA	79.0	105.7	118.9	22.7%
EBIT	30.7	51.6	64.2	44.5%
Interest expense	9.3	23.6	33.3	88.8%
Net profit	41.4	24.5	31.6	(12.6%)
Balance sheet				
Cash	249.6	34.0	5.1	(85.7%)
Total debt	719.7	748.3	808.7	6.0%
Total equity	825.2	756.7	821.1	(0.2%)
Total assets	1,761.6	1,754.8	1,908.8	4.1%

Ratios

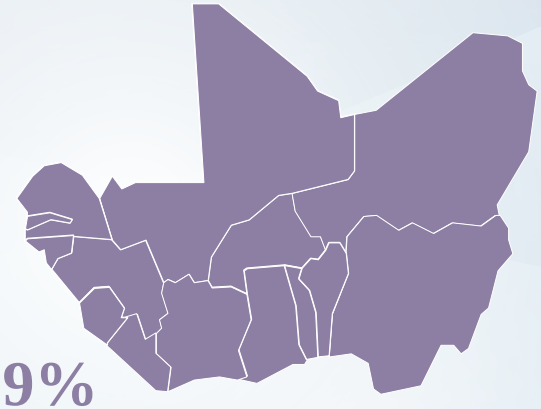
Ratios	2010	2011	2012
EBITDA margin	57.0%	62.2%	66.4%
EBIT margin	22.2%	30.4%	35.8%
Net profit margin	29.9%	14.5%	17.6%
ROAA	2.6%	1.4%	1.7%
ROAE	5.0%	3.1%	4.0%
Debt/Equity	0.9x	1.0x	1.0x
Interest coverage	3.3x	2.2x	1.9x
Net Debt/EBITDA	6.0x	6.8x	6.8x

1. Source: Guidelines for Independent Power Producers, CBEND.

2. Source: Company Filings, Annual Reports.

WAPP

West African Power Pool



14.9%

11.4 GW

Western African Power Pool (WAPP)

Western African Power Pool (WAPP)

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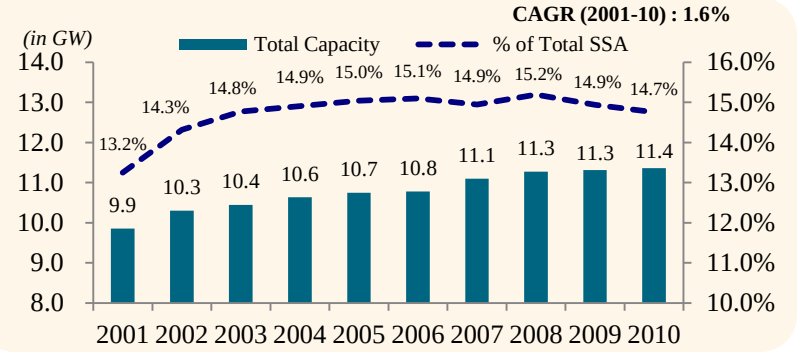
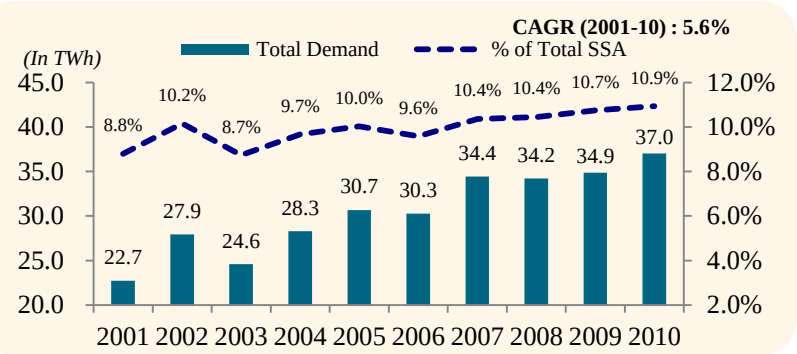
Installed Capacity[1]

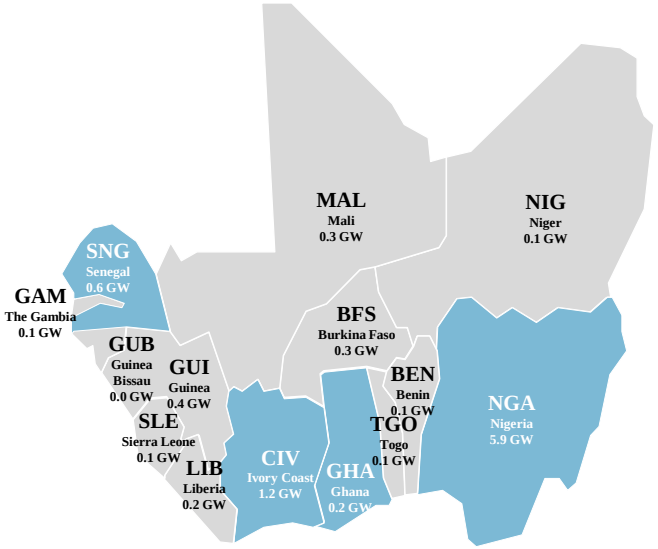


Total Demand[1]



Member Nations & Installed Capacity

# of Countries:	**14**
Population[2]:	**307.2 mln**
Current GDP[2]:	**$369.4 bln**
2011 Real Growth[3]:	**5.5%**
Current GDP/Capita:	**$1,202.5**



Installed Capacity of Selected Countries = 83.8% of WAPP

WAPP's capacity growth has been lagging a higher growth in demand

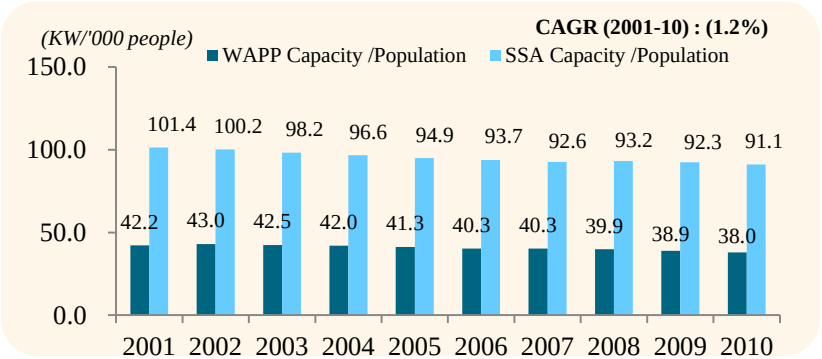
1. Source: EIA, 2010.

2. Source: IMF, WEO Database, October 2012.

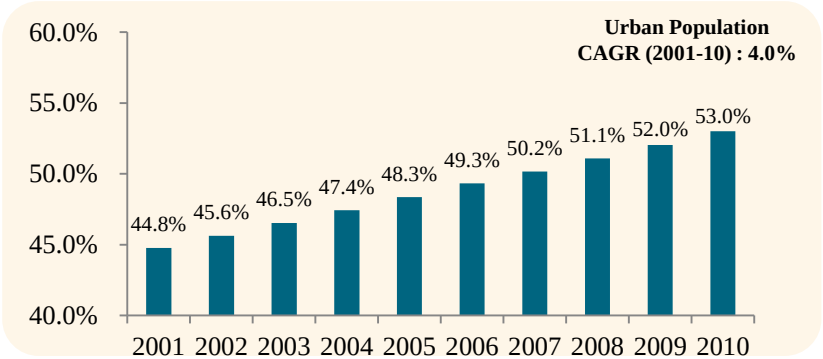
3. Source: World Bank Data. Excludes The Gambia's GDP.

Western African Power Pool (WAPP)

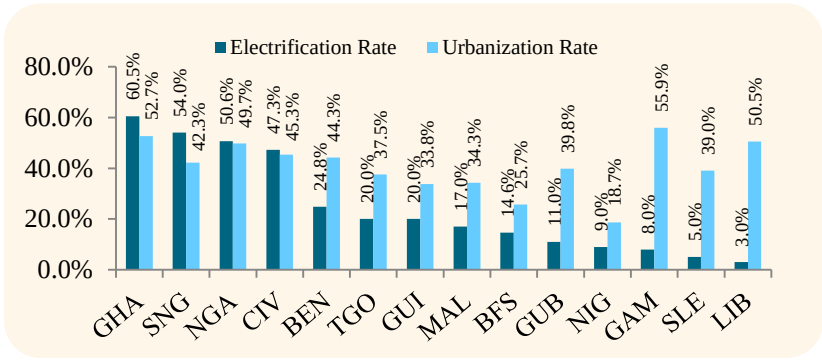
Installed Capacity/Population[1]



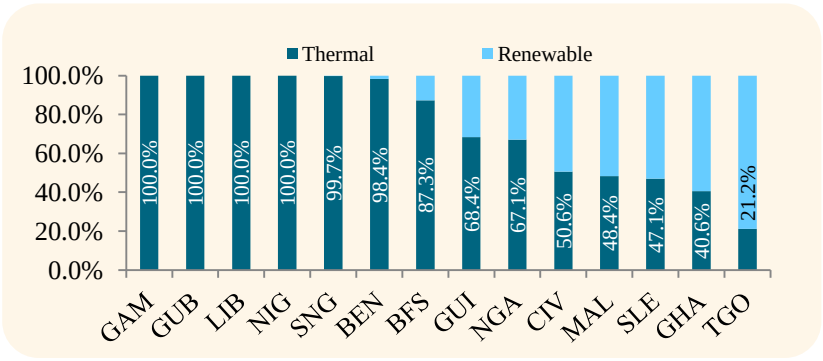
Urbanization[2]



Electrification & Urbanization Rates[3]



Generation Mix[1]



WAPP has witnessed a steady rise in the urban population leading to higher electricity demand

1. Source: EIA, 2010, Population from IMF, WEO Database, October 2012.

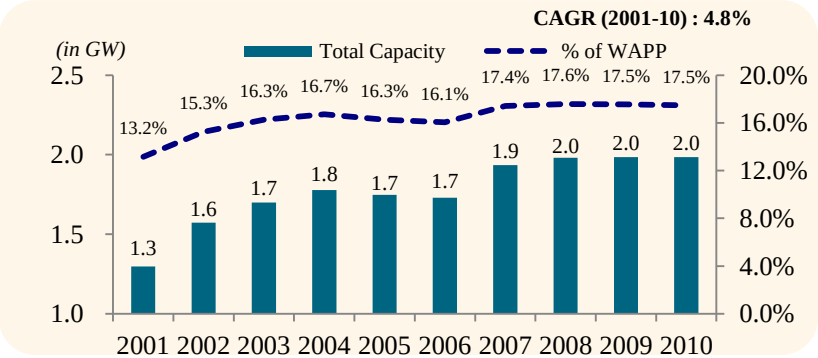
2. Source: World Bank.

3. Source: IEA World Economic Outlook, 2011; For GAM, NIG, LIB, GUB, SLE, MAL, and GUI, the Electrification Rate is as of 2008 from UNDP Report.

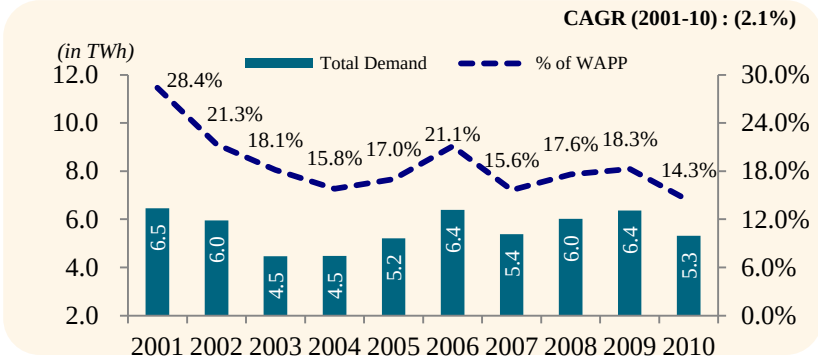
Ghana (WAPP)

Ghana (WAPP)

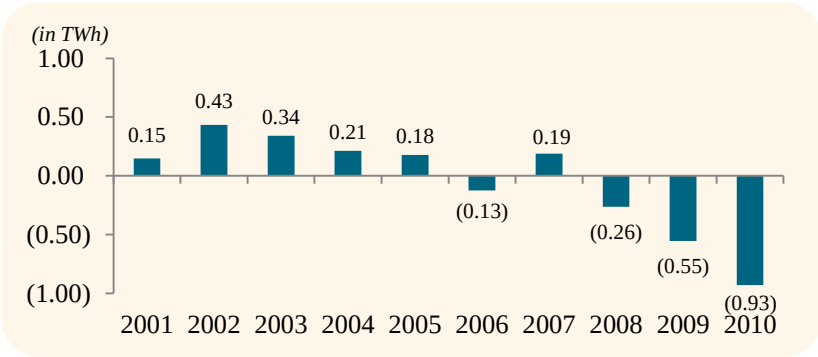
Total Installed Capacity[1]



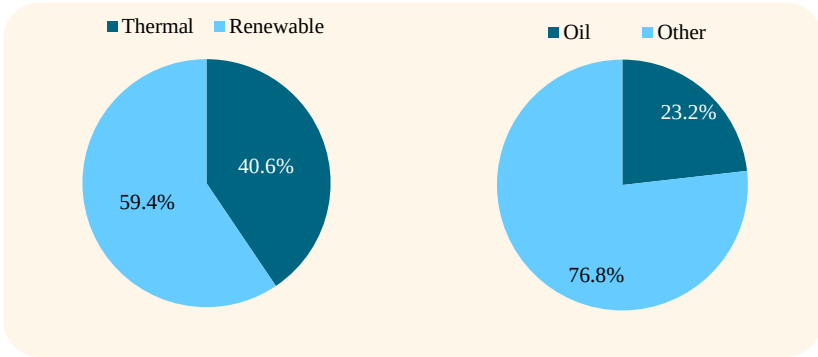
Total Demand[1]



Net Electricity Imports[1]



Generation Mix[1] & Domestic Output[2]



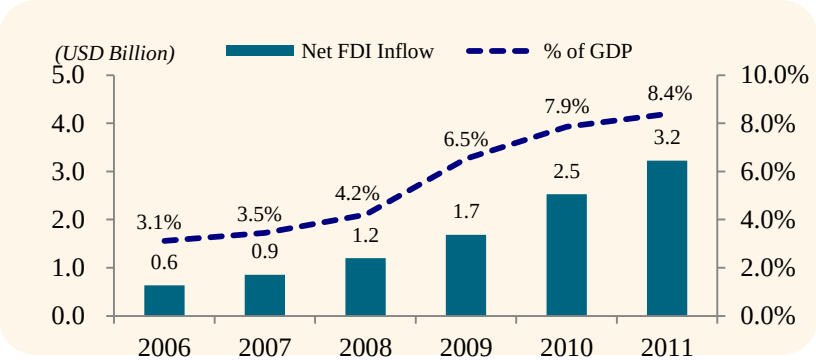
1. Source: EIA 2010. Generation mix represents the installed capacity.

2. Source: World Bank. Domestic output represents the total power generated.

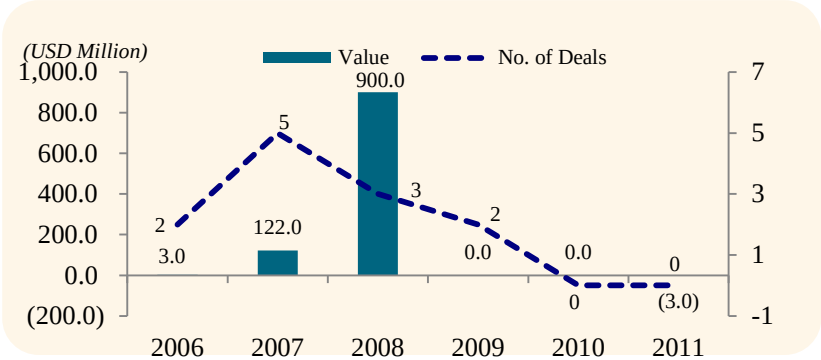
3. Note: Negative imports imply exports.

Ghana (WAPP)

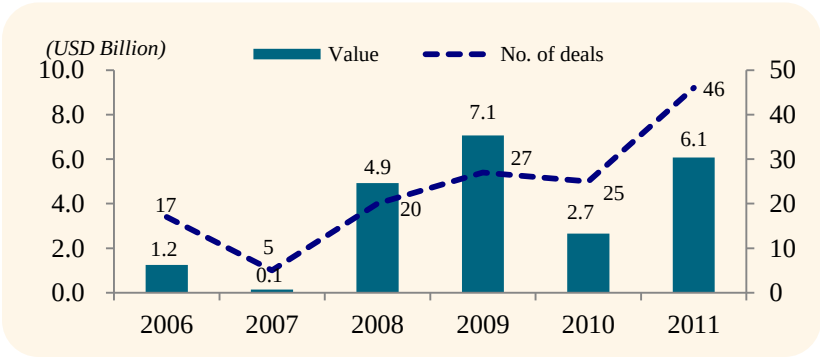
Net FDI Inflows[1]



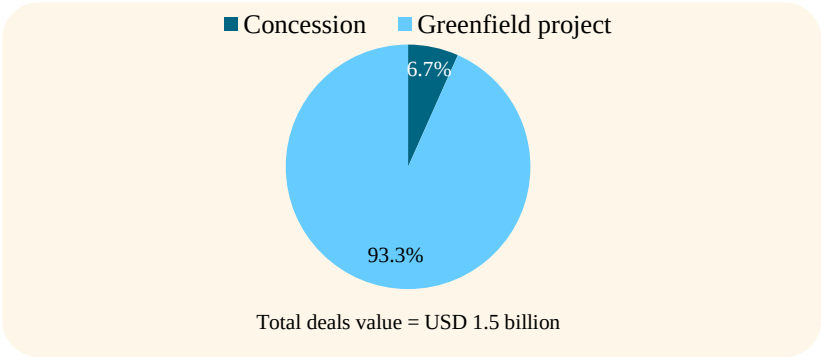
Cross-Border M&As and Deals[1]



Greenfield FDI and Deals[1]



Private Participation in Energy Sector[2]



Total deals value = USD 1.5 billion

Ghana has witnessed a strong growth in FDI inflow and Greenfield investments

1. Source: UNCTAD, World Investment Report 2012.

2. Source: World Bank (1990 – 2011). Concession: A private entity takes over the management of a state-owned enterprise for a given period during which it also assumes significant investment risk.

3. Note: Value of M&A data include those deals that involve acquisition stake of more than 10.0%.

Ghana (WAPP)

Regulatory Environment

Tax

- Corporate profits are taxed at 25.0%
- Dividends, interest paid to resident and non-resident shareholders are subject to a withholding tax at 8.0%
- Royalties paid to residents and non-residents are taxable at 5.0% and 10.0% respectively
- Repatriation tax of 10.0% is applicable to non-residents
- Capital gains are taxed separately from business income at 15.0%. Gains arising from trading on the Ghana stock exchange are exempt from tax for 30 years as from November 1990
- Tax incentives are provided to manufacturing companies ranging from 25.0% to 50.0% of their tax liabilities

Regulators

- The electricity industry in Ghana is regulated by the Public Utilities Regulatory Commission (PURC) and Energy Commission (EC). EC's s regulatory mandates are to grant licenses for transmission, supply and distribution, to establish the standard of performance, to promote uniform rules of practice for the transmission, supply and distribution
- PURC's regulatory mandates are to provide and approve tariffs, to protect the interests of consumers and utilities, to monitor standard of performance and fair competition

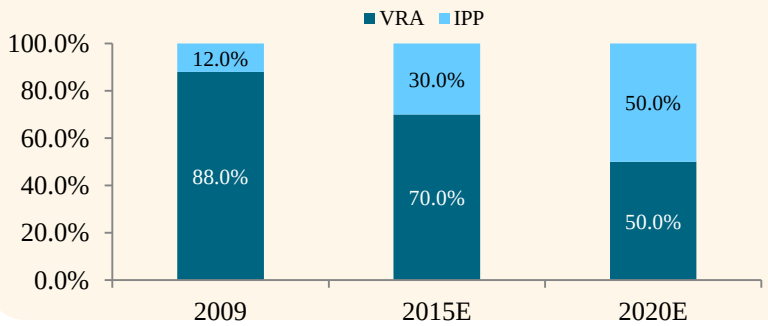
Source: Deloitte, International tax, Ghana Highlights 2012. Guide to Electric Power in Ghana, July 2005.

Ghana (WAPP)

Overview of the IPP Market[1]

- Prior to the power sector reforms, Ghana's market was highly regulated. Ghana needed foreign capital to help develop its power sector. As part of the power sector reforms, Ghana commenced the process of unbundling XYZ Corp [2]
- The new structure enables and encourages the free entry of IPPs into the generation market, creating a competitive market which, when combined with open access to transmission, also facilitates a bulk power trading market

Expected Market Share



IPP Pipeline[1]

Name	Capacity (MW)	Fuel Type	Expected Date of Commissioning	Investor
Sunon-Asogoli Power Plant	200.0	Gas	2010	Sunon-Asogli
Osagyefo Power Barge	125.0	Gas	2010	Balkan Energy Corporation
Osagyefo Power Plant (Planned Upgrade)	185.0	Gas	NA	Balkan Energy Corporation
Kpone Thermal Power Plant	110.0	Gas	2015	VRA/Private partner
Osono	120.0	Gas	2011	NA
CENPOWER	110.0	Gas	2013	CENPOWER
Takoradi 2	110.0	Gas	2015	VRA/TAQA

1. Source: GridCo report.

2. Note: XYZ Corp is the state-owned entity responsible for generation and transmission of electricity in Ghana.

Ghana (WAPP)

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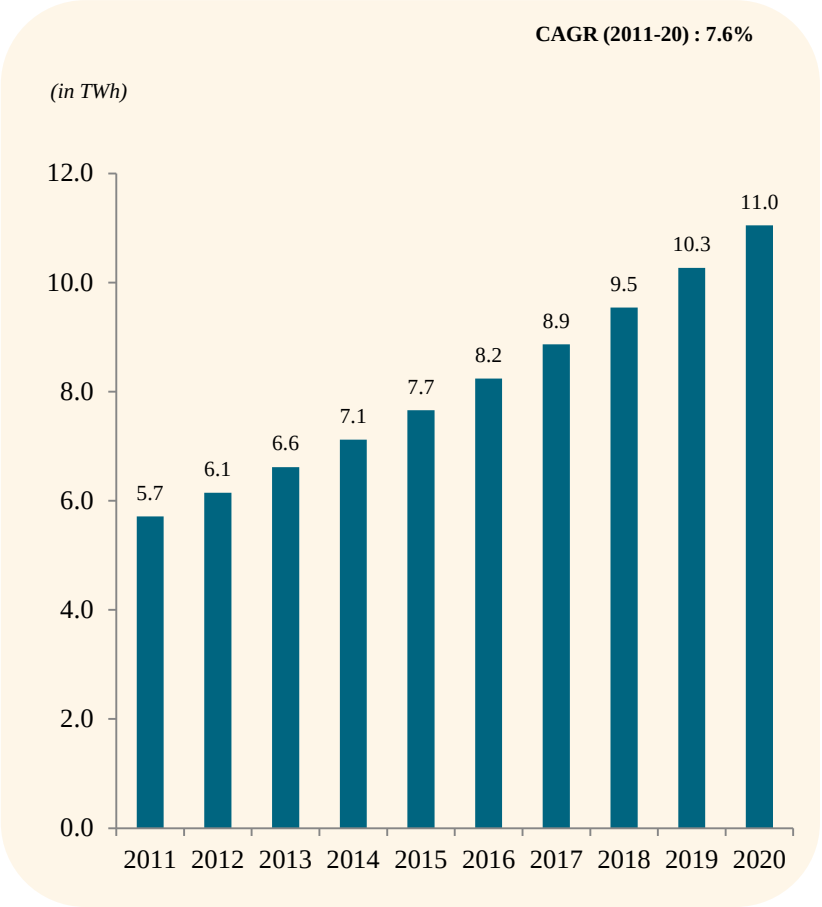
Challenges

Tariffs	▪ The current tariff regime is heavily influenced by hydropower and is not attractive to IPPs that are generating power from expensive imported oil
Markets can Become Less Competitive	▪ IPPs in a competitive market will each have a less diverse mix of generation types and will only produce when marginal revenue (i.e. the tariff) exceeds the marginal cost of production
Ability to Meet Industrial Demand	▪ According to GridCo., 50.0% of the country's energy demand comes from the residential sector. It will be a challenge to the Ghanaian power companies if the demand from the industrial/commercial sector increases
Transmission and Distribution Losses	▪ Ghana faces security of supply, transmission and distribution losses. The country is currently experiencing approximately 25.0% power distribution losses and 5.0% transmission losses since the entire power in the country is presently generated near the coast and transmitted to consumers in the interior

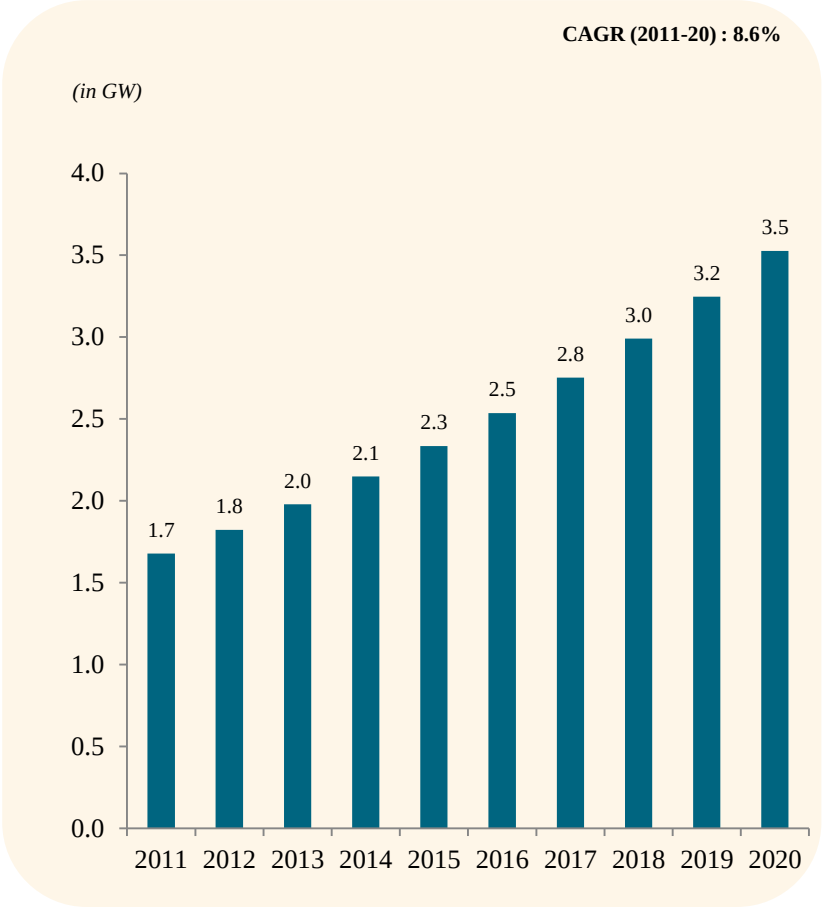
Source: Sub-Saharan Power Outlook, KPMG.
Source: GridCo Report, 2010.

Ghana (WAPP)

Demand Forecast[1]



Required Minimum Capacity[2]



Source: SAPP Annual Report 2012.

Note: Required Minimum Capacity reflects the capacity required to satiate peak demand.

Ghana (WAPP)

XYZ Corp - Overview

- XYZ Corp, is the state-owned entity responsible for generation and transmission of electricity in Ghana
- The electricity generation costs are very low mainly due to the large hydroelectric power plants that were installed more than 30 years ago. However, XYZ Corp is forced to sell at regulated tariffs even if it is using crude oil for much of its generation
- Followings are the plants operated by XYZ Corp :

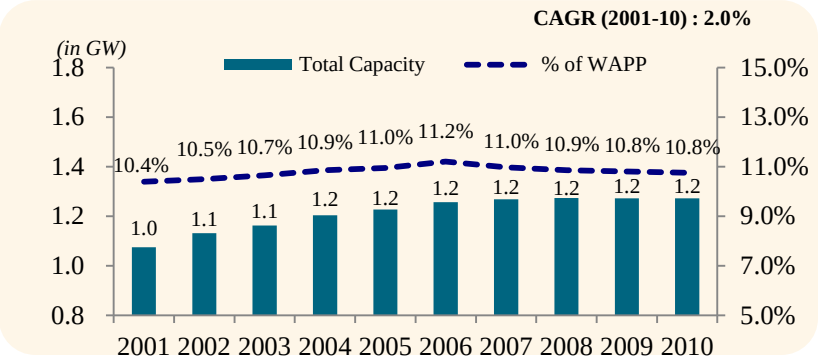
Plant Name	Capacity (MW)
Hydro	
Akosombo Hydro Plant	1,020.0
Kpong Hydro Plant	160.0
Thermal	
Takoradi Power Station (Gas)	330.0
Tema Power Station (Gas)	126.0
On-Going Thermal Projects Seeking Funds	
Takoradi 3 Expansion (T3-X) (Gas)	132.0
Domunli Thermal Power Project (Gas)	450.0

Source: Company Website, Company Overview.

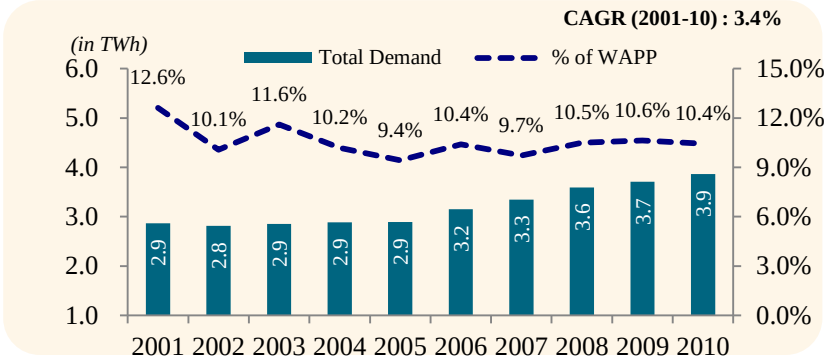
Côte d’Ivoire (WAPP)

Côte d'Ivoire (WAPP)

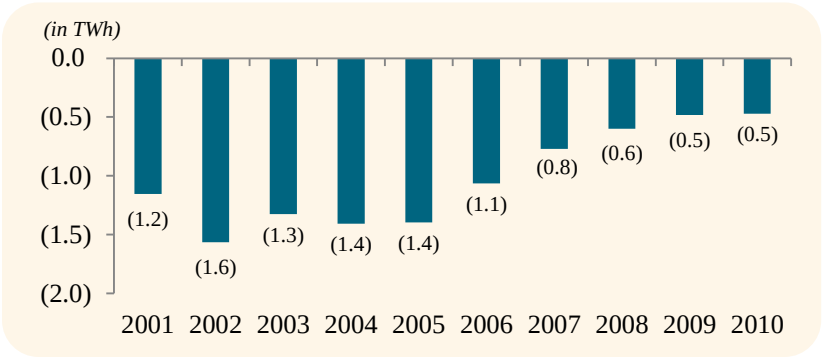
Total Installed Capacity[1]



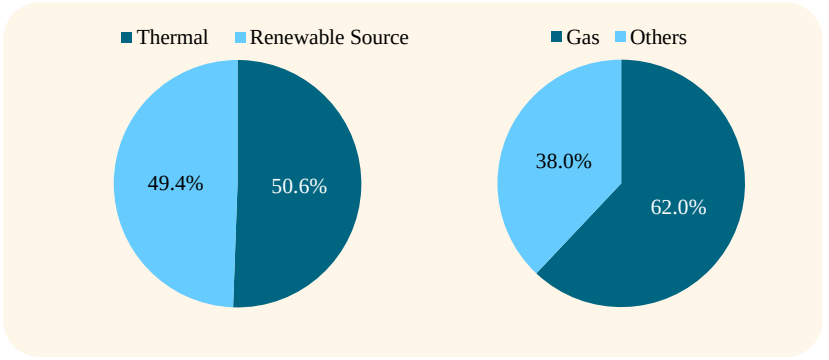
Total Demand[1]



Net Electricity Imports[1]



Generation Mix[1] & Domestic Output[2]



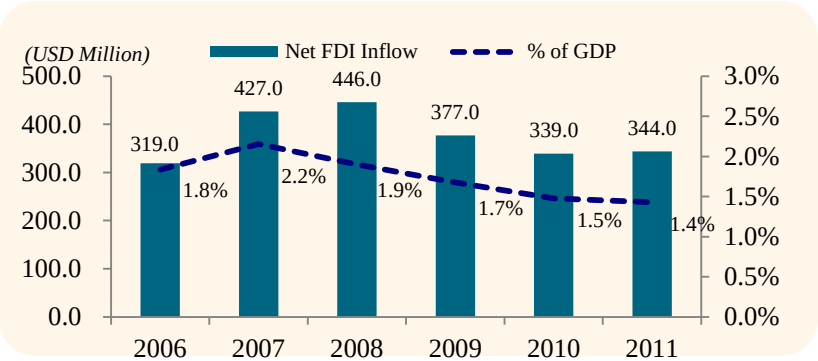
1. Source: EIA 2010. Generation mix represents the installed capacity.

2. Source: World Bank. Domestic output represents the total power generated.

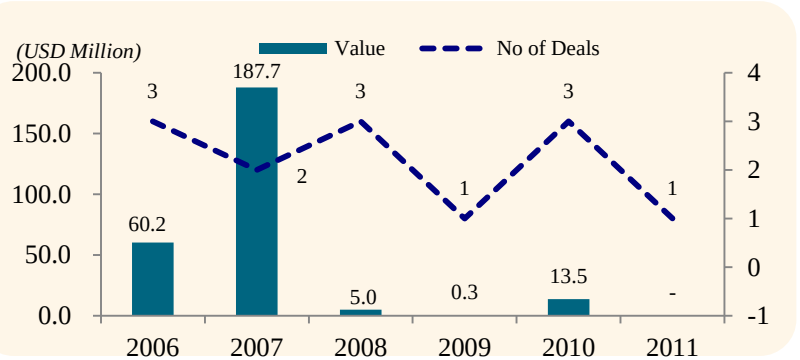
3. Note: Negative imports imply exports.

Côte d'Ivoire (WAPP)

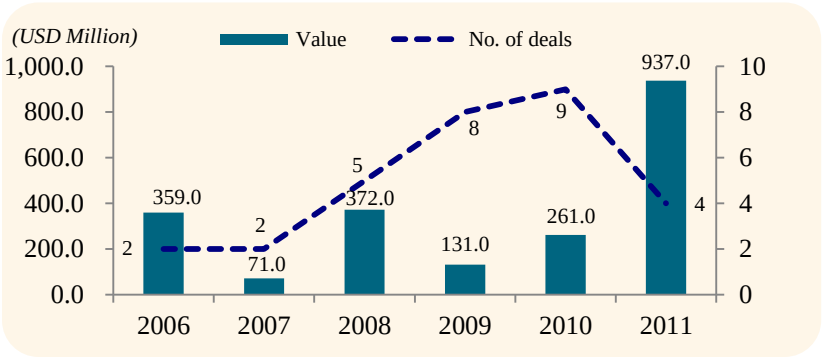
Net FDI Inflows[1]



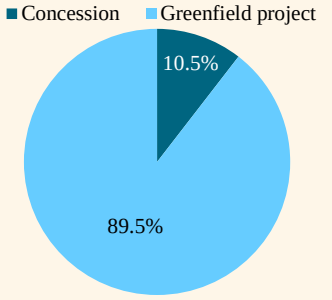
Cross-Border M&As and Deals[1]



Greenfield FDI and Deals[1]



Private Participation in Energy Sector[2]



Total deals value = USD 382.0 million

FDI inflows are slowing compared to the economic growth, but Greenfield investments remain strong

1. Source: UNCTAD, World Investment Report 2012.

2. Source: World Bank (1990 – 2011).

3. Note: Value of M&A data include those deals that involve acquisition stake of more than 10.0%.

Côte d'Ivoire (WAPP)

Regulatory Environment

Tax	▪ Corporate earnings are taxed at 25.0% ▪ Dividends distributed by a listed company to a resident or a non-resident are taxed at a rate of 10.0% ▪ Interest paid to a resident or a non-resident are subject a to a withholding tax rate of 12.0%. Royalties are subject to a withholding tax 20.0%
Foreign Lending	▪ There are no restrictions or requirements applicable to the importation of capital by lenders to the project ▪ Lenders or security agents are not required to be registered in Ivory Coast
Currency Convertibility	▪ Ivory Coast's domestic currency, XOF, is linked to the Euro and unlimited convertibility is guaranteed at a fixed exchange rate

Source: www.africapowerguide.com.

Côte d'Ivoire (WAPP)

Overview of the IPP Market

- The Ivory Coast is one of the pioneers of Sub-Saharan Africa in private participation in the power sector. Since 1990, the country's electric utility has been managed by a private operator
- As of 2007, IPPs accounted for nearly two thirds of the total electricity production
- By 2030, it is expected to be a leading nation among the other Sub-Saharan nations by relying on its existing IPPs and its significant untapped reserves of domestic natural gas estimated at 1,726.0 billion cubic feet (49.0 million cubic meters)

Expected Market Share

Ownership	Current Capacity (MW)	Expected C	Fuel Type
Current IPPs			
CIPREL	210.0	432.0	Gas
Azito	288.0	420.0	Gas
Expected IPP's			
Foreign Investor	-	150.0	Gas
Foreign Investor	-	330.0	Gas
Foreign Investor	-	450.0	Gas
Foreign Investor	-	4*450	Gas

Source: GridCo report.

Côte d'Ivoire (WAPP)

Challenges

Virtual Entry Barriers

- The Compagnie Ivoirienne d'Electricité (CIE) has vertically integrated monopoly, handling generation, management and distribution of electricity. CIE is also acting as the offtaker of the electricity generated by the two IPPs in Ivory Coast pursuant to a Power Purchase Agreement (PPA)
- Interestingly, the equity partners in CIE, i.e. Electricité de France (EDF) and Société d'Aménagement Urbain et Rural (SAUR), are also equity owners in both IPPs
- While this equity involvement of parties on both sides of the PPA transaction may have facilitated project development, it could lead to conflicts if other parties wish to develop future IPP projects

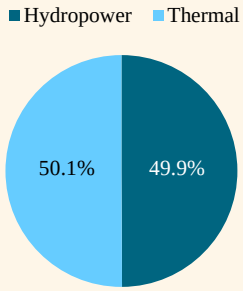
Source: Sub-Saharan Power Outlook, KPMG.
Source: GridCo Report, 2010.

Côte d'Ivoire (WAPP)

XYZ Corp - Overview[1]

- XYZ Corp, a limited company with a capital of USD 28.3 million, was established on August 24, 19XX. The company is privately held and responsible for the production, transportation, export, import, distribution and marketing of electricity throughout the territory of Côte d'Ivoire, and the West African sub-region

Generating Capacity[1]



Financial Highlights[1]

(USD million)	2009	2010	2011	CAGR
Income statement				
Revenues	601.9	560.2	562.2	(3.4%)
EBIT	17.9	16.3	20.4	7.0%
Net profit	12.3	12.4	13.5	4.8%
Balance sheet				
Cash	18.6	18.7	25.8	17.7%
Total debt	48.3	55.4	55.5	7.2%
Total equity	49.4	46.8	45.7	(3.8%)
Total Assets	725.0	967.2	1,159.3	26.5%

Ratios

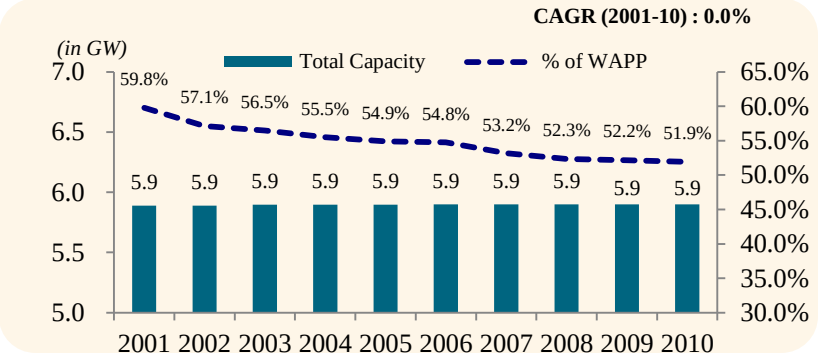
Ratio	2009	2010	2011
EBIT margin	3.0%	2.9%	3.6%
Net profit margin	2.0%	2.2%	2.4%
ROAA	1.8%	1.5%	1.3%
ROAE	25.7%	25.7%	29.1%
Debt/Equity	1.0x	1.2x	1.2x

1. Source: Company Website, Company Overview.
2. Source: Bloomberg.
3. Note: CIE stands for Compagnie Ivoirienne D' Electricity.

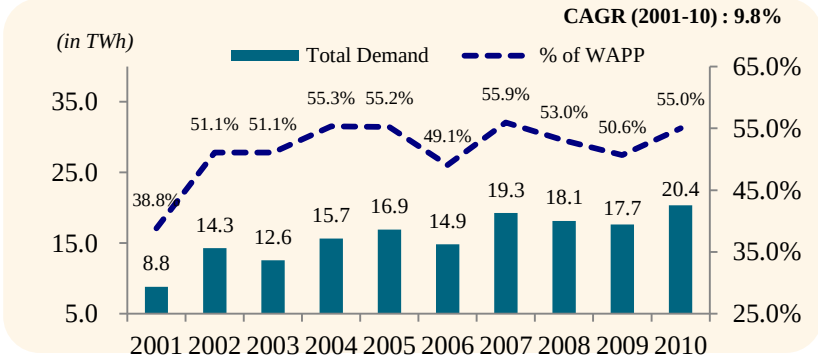
Nigeria (WAPP)

Nigeria (WAPP)

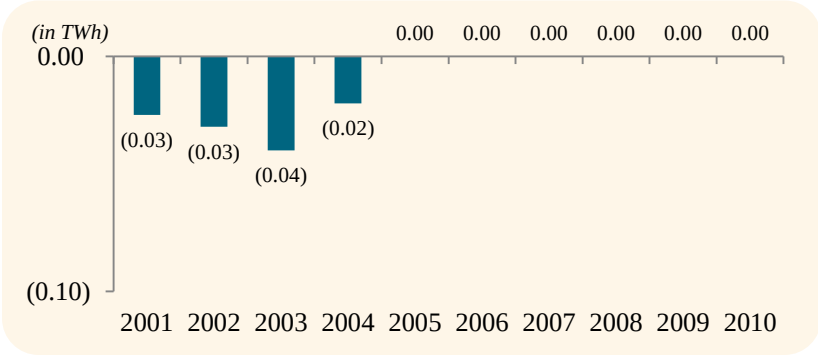
Total Installed Capacity[1]



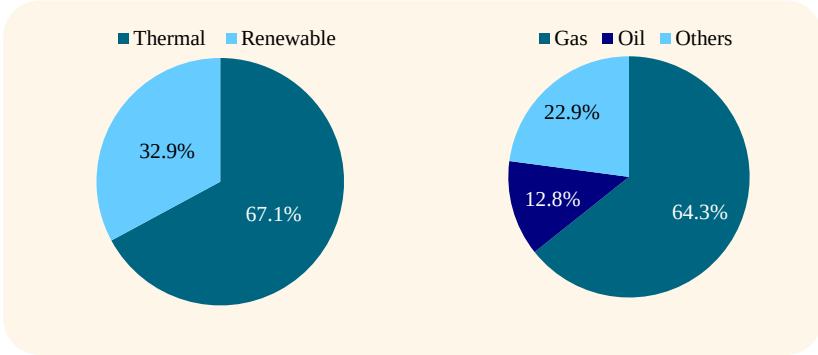
Total Demand[1]



Net Electricity Imports[1]



Generation Mix[1] & Domestic Output[2]



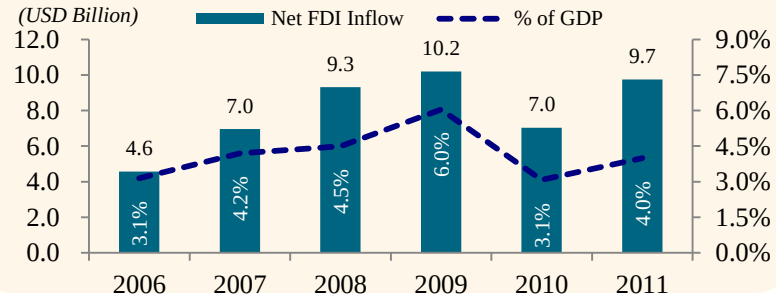
1. Source: EIA 2010. Generation mix represents the installed capacity.

2. Source: World Bank. Domestic output represents the total power generated.

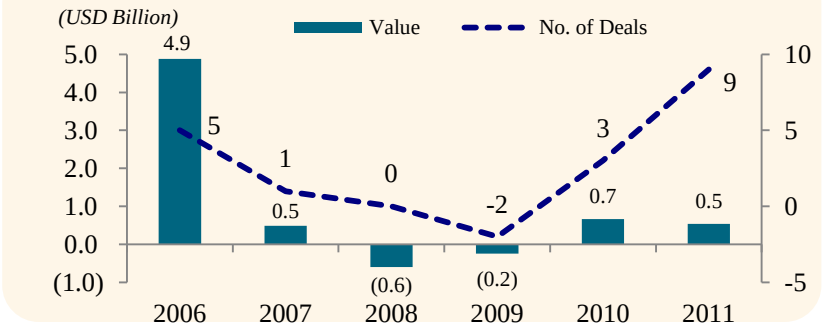
3. Note: Negative imports imply exports.

Nigeria (WAPP)

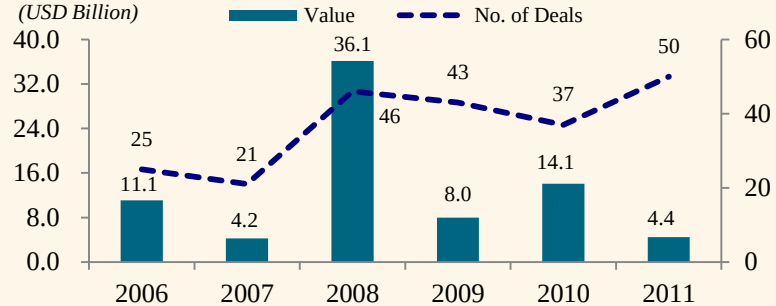
Net FDI Inflows[1]



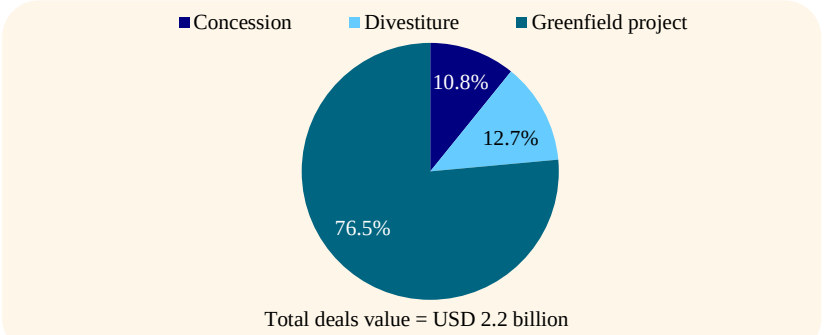
Cross-Border M&As and Deals[1]



Greenfield FDI and Deals[1]



Private Participation in Energy Sector[2]



Total deals value = USD 2.2 billion

Nigeria has been one of the most popular investment destinations

1. Source: UNCTAD, World Investment Report 2012.

2. Source: World Bank (1990 – 2011). Concession: A private entity takes over the management of a state-owned enterprise for a given period during which it also assumes significant investment risk.

3. Note: Value of M&A data include those deals that involve acquisition stake of more than 10.0%.

Nigeria (WAPP)

Regulatory Environment

Legislations	▪ The Nigerian Investment Promotion Commission Act 16 of 1995 abolished the limits of foreign shareholding in Nigeria-registered/domiciled enterprises ▪ The Foreign Exchange (Monitoring & Miscellaneous Provisions) Act 17 of 1995 allows investors to repatriate their profits and dividends, net of taxes, through any authorized dealer in freely convertible currency
Taxation	▪ The corporate tax rate in all sectors, except for petroleum, is 30.0% ▪ The country's utility sector is one of the 69 pioneer sectors providing it a 3 year income tax holiday ▪ No import duty is levied on power generation equipment meant to use Nigerian gas as source of power ▪ Up to 120.0% of research and development (R&D) expenses are tax deductible
Government Efforts	▪ The government has entered into Double Taxation Agreements with countries such as UK, France, and Netherlands in order to provide companies with relief from double taxation ▪ Under a government incentive program, it negotiates specific incentive packages for the promotion of investments identified as strategic or major investments. These investments are termed as Special Investments

Source: Nigerian Investment Promotion Commission.

Nigeria (WAPP)

TresVista FINANCIAL SERVICES

Funding Scenario

Target	Preferred Bidder	Amount (USD mln)	% Stake
Ughelli Power Plc	Transcorp Consortium	300.0	100.0%
	Amperion Power Distribution	252.0	100.0%
Kainji Hydro	Mainstream Energy Solutions Limited	257.0	NA
Sapele	CMEC Consortium	201.0	100.0%
	Nestoil Plc Consortium	106.5	100.0%
Geregu Thermal Power Station	Amperion Power Distribution Co. Ltd.	132.0	51.0%
Shiroro Hydro	North-south Power Limited	111.7	NA

Source: "National Council Approves Bids For PHCN Companies", www.investingbusinessweek.com – October 30, 2012.

Nigeria (WAPP)

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Existence of Independent Power Producers (IPP)

Operational

IPP	Size (MW)	Grid Connection
Shell Petroleum Development Co. Ltd	624.0	Yes
Nigerian Agip Oil. Co. Ltd	480.0	Yes
AES	270.0	Yes
Ibom Power Ltd	190.0	Yes
First Independent Power (Omoku)	150.0	Yes
First Independent Power (Trans Amadi)	136.0	Yes
DIL Power Plc	135.0	Forthcoming
Eleme Petrochemical Company Limited	135.0	Forthcoming
Paras Energy & Natural Resources Dlpmt	96.0	Forthcoming
Notore Power Ltd	50.0	Forthcoming
Ikorodu Industrial. Power Ltd	39.0	No
Nigerian Electricity Supply Corporation	30.0	No
CET Power Project Ltd (Tinapa)	20.0	No
Coronation (Power & Gas) Ltd	20.0	No
Tower Power Utility Ltd	20.0	No
Akute Power Limited	13.0	No
Ewekoro	13.0	No
Shoreline Power Company Limited	9.0	No
CET Power Projects (Sagamu)	7.0	No
CET Power Projects (Ewekoro)	6.0	No
Unipower Agbara Limited	6.0	No
CET Power Projects Ltd (Iganmu)	5.0	No
Energy Company of Nigeria Limited	3.0	No
Ilupeju Power Limited	2.0	No

Under Construction

IPP	Size (MW)	Grid Connection
Geometric	140.0	No
First Independent Power Co. Ltd (Eleme)	95.0	Yes
Kaduna Power Supply Company Limited	84.0	No
Tower Power Abeokuta Limited	20.0	No
ContourGlobal Solutions (Nig.) Ltd	10.0	No
ContourGlobal Solutions (Nig.) Ltd	7.0	No
Income Electrix Limited	6.0	No
Wedotebary Nigeria Ltd	5.0	No
ContourGlobal Solutions (Nig.) Ltd	4.0	No

Planned

IPP	Size (MW)	Grid Connection
Ethiope Energy Ltd	2,800.0	Yes
Supertek Nig. Ltd	1,000.0	Yes
Westcom Tech & Energy Services Ltd	1,000.0	Yes
ICS Power	624.0	Yes
Ibafo Power Station Ltd.	200.0	Yes
Farm Electric Supply Ltd.	150.0	Yes
Hudson Power Station Ltd	150.0	Yes
Energy Company of Nigeria (ENCON) Ltd	140.0	Yes
Minaj Holding Ltd	115.0	Yes
Agbara Shoreline Power Company Ltd	100.0	Yes
Anita Energy Ltd	90.0	Yes
Lotus & Bresson Nig. Ltd	60.0	Yes
Mabon Ltd	39.0	Yes

Nigeria has one of the biggest IPP opportunities in the SSA region

1. Source: "The experience of independent power projects in Nigeria – January 2012", University of Cape Town Graduate School of Business.

2. Note: Cost of Okpai Plant (Nigerian Agip Oil. Co. Ltd) and AES Barge are USD 462.0 million and USD 240.0 million respectively.

Nigeria (WAPP)

TresVista FINANCIAL SERVICES

Challenges[1]

Low Tariffs	▪ Energy providers have to maintain low tariffs keeping in mind the electricity affordability of the population making it difficult for companies to attract funds for capital projects
Lack of Government Support	▪ The government spending has been inadequate for both maintenance of the current system and the development of new energy sources
Inadequate and Inefficient Transmission	▪ The transmission network is currently inadequate and inefficient in moving generated power to where it is required ▪ Also, the level of transmission losses is high at 5.9%[2] resulting in high inefficiencies
Supply Constraints	▪ Fuel supply interruption is also exacerbated by gas pipeline vandalism from the violence in the Niger Delta
Inefficient Systems	▪ The distribution companies in the sector are highly inefficient in billing and revenue collection ▪ Inefficiency in billing systems results in a higher dependence on fuel subsidies

1. Source: Sub-Saharan Power Outlook, KPMG.

2. Source: World Bank, as of 2009.

Nigeria (WAPP)

Outlook – Government Focus

Generation	▪ Maintaining the current allocation of power in every part of the country ▪ Allocating a significant portion of the additional power that will come from the National Integrated Power Plants and other IPP projects to key industrial cities in the country ▪ Ensuring 6,873.0 MW[(1)] of power generation in 2013
Privatization	▪ Complete wind-down and liquidation of Power Holding Company of Nigeria

Source: News Release, www.leadership.ng, December 8, 2012.

Nigeria (WAPP)

XYZ Corp – Overview[1]

- XYZ Corp, formerly known as ABC, was founded in 2005 and is headquartered in Abuja, Nigeria. It governs the use of electricity in Nigeria
- Pursuant to the Electric Power Sector Reform Act 2005, XYZ Corp has been unbundled into 18 successor companies of which 6 are responsible for generation, 11 involved in the distribution, and 1 in transmission to encourage private sector participation and attracting foreign and local investment
- Government will receive bids from investor groups (inclusive of competent generation asset owner/operators) for a minimum of 51.0% of equity for the successor generating companies
- Government will also receive bids for the following successor distribution companies investing in expanding the customer base and customer access/coverage area:

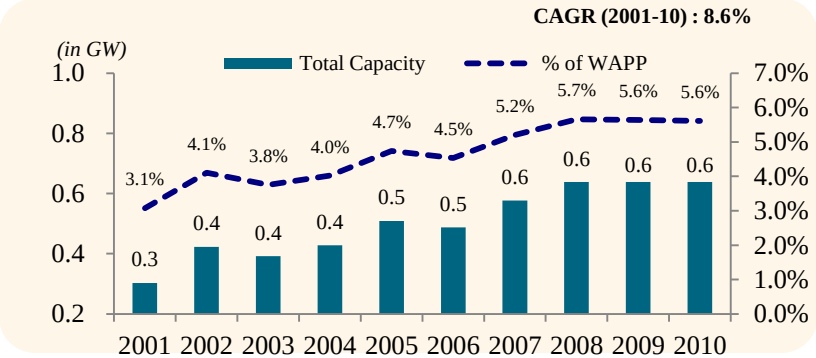
Distributor Companies	
Abuja Electricity Distribution Plc	Jos Electricity Distribution Plc
Benin Electricity Distribution Plc	Kaduna Electricity Distribution Plc
Eko Electricity Distribution Plc	Kano Electricity Distribution Plc
Enugu Electricity Distribution Plc	Port Harcourt Electricity Distribution Plc
Ibadan Electricity Distribution Plc	Yola Electricity Distribution Plc
Ikeja Electricity Distribution Plc	

1. Source: http://www.nigeriaelectricityprivatisation.com.

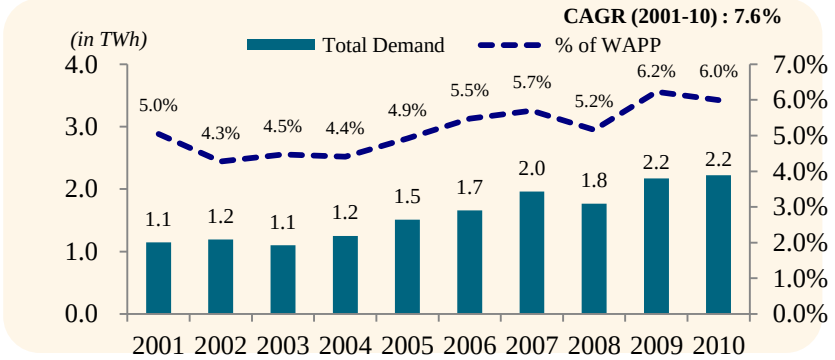
Senegal (WAPP)

Senegal (WAPP)

Total Installed Capacity[1]



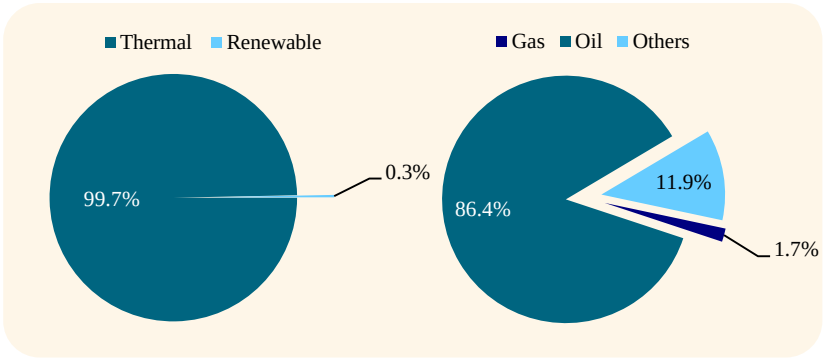
Total Demand[1]



Net Electricity Imports[2]

- Senegal recently recorded an energy surplus which it exported to Mali and Mauritania due to a rehabilitation of its machinery and equipment
- Historically, the country has faced severe power shortages
- Energy in Senegal is produced largely by burning imported diesel

Generation Mix[1] & Domestic Output[3]



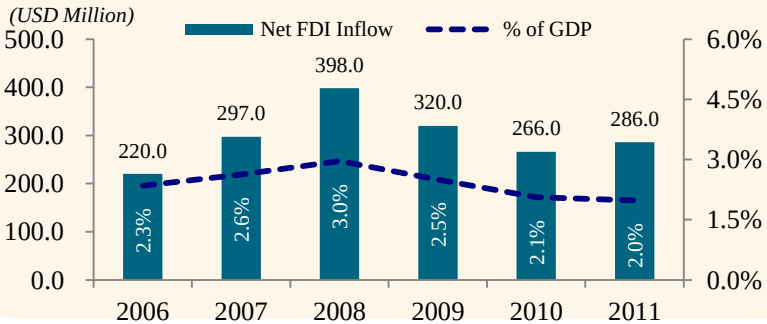
1. Source: EIA 2010. Generation mix represents the installed capacity.

2. Source: World Bank. Domestic output represents the total power generated.

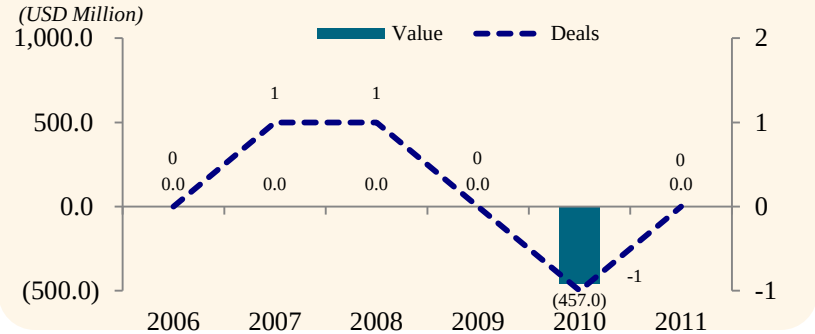
3. Note: Negative imports imply exports.

Senegal (WAPP)

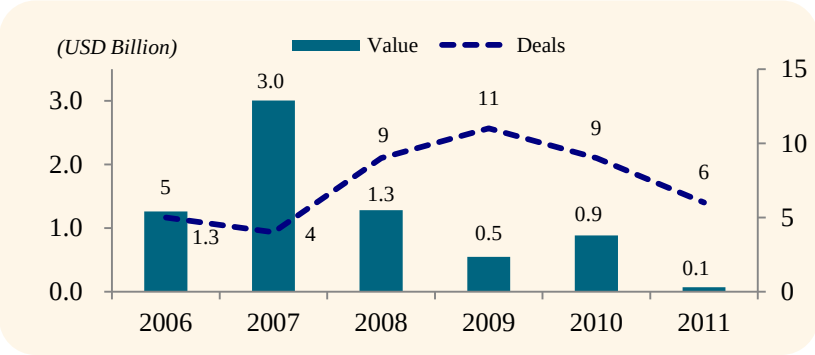
Net FDI Inflows[1]



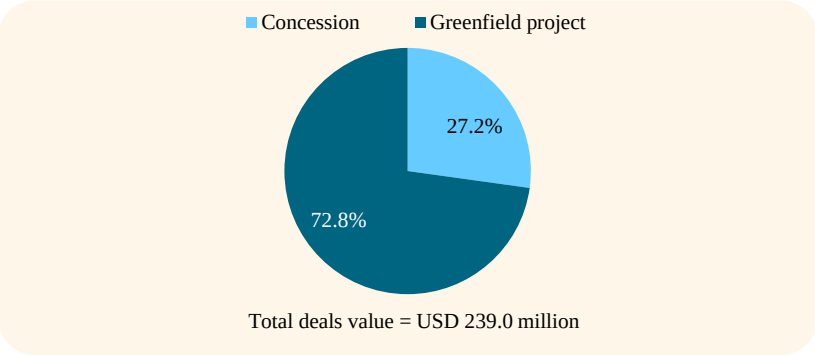
Cross-Border M&As and Deals[1]



Greenfield FDI and Deals[1]



Private Participation in Energy Sector[2]



Senegal has been losing attractiveness for foreign investors

1. Source: UNCTAD, World Investment Report 2012.

2. Source: World Bank (1990 – 2011). Concession: A private entity takes over the management of a state-owned enterprise for a given period during which it also assumes significant investment risk.

3. Note: Value of M&A data include those deals that involve acquisition stake of more than 10.0%.

Senegal (WAPP)

Regulatory Environment

Legislations	▪ Senegal's energy sector is regulated by CRSE (Electricity Sector Regulating Committee)
Foreign Capital	▪ There are no restrictions on the transfer or repatriation of capital and income earned or investments financed with convertible foreign exchange ▪ The Agency for the Promotion of Investments and Infrastructure is designed to reduce administrative regulations hampering foreign investment
Taxation	▪ The corporate income tax rate in Senegal is 35.0% of the net taxable income ▪ Foreign corporations in Senegal are taxed only on Senegal-source income ▪ Foreign companies with branches in Senegal are subject to a 10.0% withholding tax on profits that have not been reinvested in Senegal ▪ Relief from the minimum Personal Income Tax and from the Business License Tax is granted to investors who use local resources for at least 65.0% of their total inputs within a fiscal year

Source: Africa Asia Business Forum.

Senegal (WAPP)

Independent Power Producers (IPP)[1]

- To meet the demand for electricity in Senegal, XYZ Corp uses its own means of production but IPPs also contribute a significant portion to the consumption
- XYZ Corp is bound by contracts to purchase electricity from the existing IPPs for a period of 15 years

IPP	Capacity (MW)	Fuel Type
GTI-Dakar	53.0	Gas
Eskom-Energy-Manantali	200.0	Hydro
Kepco[2]	250.0	Coal

1. Source: Analysis of IPPs in Africa - The Infrastructure Consortium for Africa, November 2011.

2. Note: Kepco has signed a deal with the government of Senegal to build a 250MW coal-fired power station which will be operational from 2015.

Senegal (WAPP)

TresVista FINANCIAL SERVICES

Challenges[1]

Obsolete Equipment & Lack of Infrastructure	▪ Most of XYZ Corp's generation equipment is aged and obsolete, plus the lack of infrastructure (roads, ports, water etc.) deprives the energy sector of efficiency and effectiveness
Power Cuts	▪ Senegal has a history of power-cuts which have led to severe protests and vandalism
Lack of Resources	▪ The energy generation utilities are faced with supply constraints at times which leads to a lower energy output ▪ The power companies are faced with persistent cash flow difficulties which leads to delays in the implementation of investment programs
Low Tariffs	▪ Senegal has a very uncompetitive tariff structure due to subsidies which makes the market unattractive for private players. The fluctuation in the cost of electricity also impacts the sentiment negatively
Lack of Energy Diversification	▪ Lack of diversification of energy sources and predominance of petroleum products in electricity production has slowed cost reductions

Source: Lighting Africa Policy Report Note—Senegal, IFC.

Senegal (WAPP)

Outlook – Sector Reforms

- Developing institutional framework and improving upon the management of XYZ Corp
- Increasing power generation capacity in the country and shifting to cheaper sources such as coal – A new 125.0 MW coal fired plant is being setup in Sendow (BOO)
- Diversifying sources of energy (promotion of renewable energies, biofuels, hydro-electricity both nationally and regionally)
- African Development bank will be contributing to the financing of two hydro-electricity plants (OMGV I & II) with total power of 368.0 MW
- The interconnection of the electricity supply networks linking hydroelectricity plants of four OMVG member States, is planned too

Source: African Development Bank.

Senegal (WAPP)

XYZ Corp - Overview[1]

- XYZ Corp is the national electricity company of Senegal and provides energy generation, distribution and transmission services in the country
- It was established in 1983 after the nationalization and merger of ABC and LMN
- In 19XX, the Agency for Rural Electrification (ASER) and the Electricity Regulatory Board were split from XYZ Corp and the company was put into privatization
- In 19XX, the consortium of ABC and LMN bought XX.0% of XYZ Corp's shares, however, the deal was annulled by President Abdoulaye Wade in March 2000
- XYZ Corp is also the signor of Power Purchase Agreements (PPAs) with IPPs in Senegal

Operating Metrics

	2006	2007	2008	2009	2010	CAGR
Maximum peak capacity (MW)	387.0	387.0	407.0	424.0	429.0	2.6%
Capacity Utilization	*64.7%*	*68.0%*	*67.3%*	*67.0%*	*69.7%*	
Total electricity production (GWh)	2,192.0	2,305.6	2,399.8	2,489.2	2,617.8	4.5%
Own electricity production (%)	*66.1%*	*69.2%*	*64.1%*	*76.1%*	*68.8%*	1.0%
Foreign purchases (%)	*33.9%*	*30.8%*	*35.9%*	*23.9%*	*31.2%*	(2.0%)
Total electricity sales (GWh)	1,740.2	1,785.8	1,866.8	1,928.4	2,062.6	4.3%
Total customers	651,920.0	711,578.0	766,353.0	827,266.0	880,082.0	7.8%

1. Source: Company Website, Company Filings, Annual Reports.