Tower Power Nigeria

Supplying Reliable Power to Captive Customers

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The demand-supply power gap in Nigeria is acute. The estimated real demand gap of 25GW plus is shown in the graph along with the actual demand and supply trends. According to Nigerian Energy policy reports, customers connected to the grid are short of power over 60% of the time. Over 65% of the population is not connected to the grid, and over 90% of businesses have diesel generators. The diesel genset market is over 12,000 MW today.

On Generation and distribution...
- Current capacity is between 2,500 – 3,500 MW with transmission losses of up to 25%.
- Approximately 12,500 MW of self-generation is operational today.

There are macro initiatives... but there is a ‘but’

Several large scale IPPs have been licensed

• 12 Natural Gas based On-Grid Independent Power Producer licenses of 250 MWs to 1,000 MWs have been issued

• None of these are in operation... or are even under implementation due to five key factors
  1. Government policy and planned regulations are not being implemented
  2. The suggested subsidised gas price of <$1/MMBTU is not being offered by suppliers
  3. The distribution network is not reliable and needs an upgrade
  4. Historically collection of dues from Power Holding Company of Nigeria (PHCN) has been difficult
  5. Resistance from PHCN labour unions on large private projects

Presidential Task force on Power

• There is a strong government push to address the problem... all the way from the top

• As such it is possible for Independent Power Producers who can navigate in this environment to work effectively and profitably
Tower Power has a proven and operational solution

A proven commercial solution

- The Tower Power solution addresses the identified problems in today’s regulatory and economic environment

1. The Power Plant has a Generation License for supply to an ‘Anchor’ customer and surrounding off-takers

2. Gas is sourced from suppliers at prevailing commercial rates of ~$6/MMBTU

3. Each Captive Power Plant has its own distribution network

4. Sales are direct to credit worthy customers on acceptable commercial terms for all parties

5. Tower power works closely with PHCN with full disclosure and cooperation

Pictures of Tower Power’s first Power Plant in Otta, Lagos
A 15MW Natural Gas Based Power Plant that has been in operation since February 2009
Value delivered to captive customers

A lack of reliable power has forced consumers into a ‘Diesel’ solution

Real Cost per Unit (Naira/kWh)

- Grid Tariff
- Diesel Cost
- Blended Cost
- Tower Power

33% cost savings per kWh

(A) Grid power used 40% of the time and self generation from diesel for balance of power requirement.
(B) Diesel cost generation includes raw material cost and fully loaded cost of operating and maintaining diesel generator sets
(C) Blended cost estimate is a weighted average of the two

- Tower Power provides reliable power (over 99% availability) at a significant cost saving for customers
- Customers sign long term Power Purchase Agreements
  - Industries that require continuous and ‘quality’ power 24x6/7 are ideal customers
  - Downtime cost is what drives the PHCN + Diesel Solution
  - Tower Power delivers a 33% value on their power purchase which could amount to several million $’s annually for a 3-5MW customer
- Additionally all operations, maintenance and capital equipment refreshes are off the customer’s radar... along with all the required internal resources, e.g., diesel procurement agent
We have a robust and scalable technical solution

All Tower Power Stations follow a modular technical solution

- Prime mover is the Cummins QSV91 1.75 MW reciprocating engine – Power Plants can be effectively built up to 20MW using multiples of this platform

- The solution is well suited to “Island Mode” operation required for Captive Power

- Additional benefits from ‘one’ platform come from standardisation of the operations, repair and maintenance – enhancing the reliability of Tower Power’s solution

- Cummins is also a partner in Tower Power putting its resources behind each Tower Power plant to ensure smooth uninterrupted operation
Expansion of the proven model and future opportunities based on portability of gas

Current gas pipeline limits the reach of this solution

- Tower Power has multiple projects under implementation that source gas from the pipeline
- Tower Power has active projects in Abeokuta and Ibadan based on CNG
- The model is being further enhanced with a project based on LNG to expand the solution beyond coastal areas

Source: www.nigeriapowerreform.org

Tower Power’s sister company has pioneered a ‘Gas on Wheels’ CNG solution and can deliver 57 million scm p.a. of natural gas.

Source: www.nigeriapowerreform.org
Our total investment will be ~US$470M with commensurate returns

Tower Power Investments
(US$ Millions)

Current Projects
Project Investment of $10M to $20 M per project
Capital structure 30:70 Equity:Debt

Future Projects
Investment of $1.8-$2.0M per installed MW
Customers and sites identified

Operating Plants Ongoing Projects 250 MW Target Total

Operating Numbers & Profitability

- A 9MW Tower Power plant has the following annual operating performance
  - 49 million units of power (kWh) sold
  - Anchor customer at 20%-30% of total annual demand
  - 99% plus availability
  - Revenue of US$9.65 million
  - Earnings before interest and taxes of $4.06 million or 42%
Tower Power is backed by established promoters who work with globally recognised partners.
Tower Power serves blue chip companies with long term agreements in place
Thank you

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