

Investment Opportunities

Electricity Sub-sector

Presented by Harry T. Yuan
Managing Director
Liberia Electricity Corporation

Liberia Private Sector Investment Forum
February 15, 2007

System Overview

(Prior to Liberian Civil War)

- LEC Generating Capacity
 - 64 MW Mt Coffee Hydro
 - 64 MW Bushrod Gas turbine
 - 42 MW Bushrod Slow speed diesels
 - 11 MW Bushrod Medium speed diesels
- LEC Transmission system
 - 400 km of 69 kv wood pole lines
 - 20 km of 69 kv steel towers and pole lines
 - 800 km of 12.6 kv lines
 - Few km of 12.5kv of underground cable in downtown Monrovia
- LEC Customer Base of 30,000

System Overview

(Prior to Liberian Civil War)

- LEC Rural Electrification --9 MW
 - Voinjama 1100 kw
 - Kolba city 295
 - Zorzor 200
 - Gbarnga 1980
 - Ganta 770
 - Sanniquellie 930
 - Rivercess 110
 - Zwedru 750
 - Harper 990

System Overview

(Prior to Liberian Civil War)

- Non- LEC generating capacities
 - Firestone Rubber Plantation 7MW
 - Liberian Mining Company 20MW
 - LAMCO Mining Company (Yekepa) 15MW
 - LAMCO Mining Company (Buchanan) 45MW
 - Bong Mining Company 90MW
 - National Iron Ore 20MW

System Status

- Total generation capacity of both LEC and Non-LEC in excess of 400MW has not been maintained and has been scrapped or destroyed
- Only 2.0 MW power is now generated by the LEC under the Emergency Power Program in Monrovia (EPP)

System Status



Damaged poles & lines



Damaged power substation

Current Rebuilding of System

- Emergency Power Program
 - Critical element of 150-day stabilization plan
 - Funded by governments of Liberia, EC & US
 - Generators arrived June 2006
 - “Street Lights” on July 26th 2006



Near Term Projects

- EPP2
 - Memorandum signed in December 2006
 - Funded by GOL, Norway, EC, World Bank and US
 - Adding 7 MW of power to Monrovia city grid
 - Expand distribution, street lights & reconstruct grid
 - Estimated completion in 2nd quarter 2008
- LEAP (USAID funded pilots)
 - Sustainable neighborhood pilot service delivery using prepaid meters
 - Rural electrification pilots using renewable energy; likely solar or micro-hydro
 - Both pilots schedule to be in place by November 2007

Feasibility Studies

- Technical & Financial Hydro Studies Funded by USTDA and executed by LEC.
 - Staged development of 7 major hydro sites
 - Development of a new 100 MW facility at the Mt. Coffee hydro location
 - Development of a mini-hydro power industry at numerous sites across the country

Investment Possibilities

- Hydro Plants
 - Reconstruction of Mount Coffee
 - 100 % production during raining months
 - Storage reservoir to compensate for dry months
 - Construction of other plants with possibility for export to WAPP
 - Mano River between Liberian and Sierra Leone 180MW
 - Cavalla River between Liberian and Ivory Coast 250 MW
 - St. Paul River – six sites 800 MW
 - Construction of mini-hydro plants for Rural Electrification
 - Several rivers ranging from 1.5 to 7 MW
 - Rivers in Lofa, Bong, Grand Bassa, Nimba and Grand Gedeh
- Renewable Energy
 - Wind farms
 - Solar
 - Biomass
 - Waste-to-energy

Investment Timeline

- After November 2007
 - Investment needed to roll out energy service to urban neighborhood
 - Investment needed to roll out rural electrification
- After 2nd quarter 2008
 - Investment needed for additional 20-30 MW to reenergize the Monrovia City grid

Q & A

