

E L E Q T R A

Infrastructure Brochure

Delivering Tomorrow's Infrastructure



eleQtra's vision is to be a leader in the development, investment management and operation of privately funded infrastructure, in emerging economies.

eleQtra has a solid track record of delivering greenfield infrastructure projects in multiple sectors and managing them through the full development cycle.



ELEQTRA

Principal Developer of

 **InfraCo**
AFRICA

Developing Infrastructure

eleQtra works across multiple stages and sectors of the development and construction process to bring vital infrastructure to developing economies in Africa. eleQtra does this through its relationship with InfraCo Africa, a donor funded development fund focussing solely on sub-Saharan Africa.

The services we provide are:

- Project Development
- Operation and Management
- Construction

eleQtra and its team have experience in all conventional power generation technologies including gas, oil and coal-fired and renewable such as hydro, wind, solar and biomass.

The sectors covered by the eleQtra development team:

- **Power and Energy;** eleQtra is active within all areas of the power sector including generation, transmission and distribution.
- **Transportation;** eleQtra is active in all transport sectors including airports, ports and harbours, inland waterway transport systems, rail and road. eleQtra currently has projects under development covering road, ferry transport and commuter rail services.
- **Water & Wastewater;** eleQtra is active in the water sector, on both the bulk and distribution / collection levels through the development of new water treatment and waste water plants, together with related pipeline systems and enhancements of existing systems.
- **Other Infrastructure;** in addition to the core infrastructure sectors outlined, eleQtra is involved in projects within sectors such as:
 - Bulk Storage / Logistics Facilities
 - Infrastructure for Mining
 - Urban infrastructure such as land development and housing
 - Rail transportation
 - Agriculture with large infrastructure needs such as irrigation, roads, electricity



Construction, Operation & Management

eleQtra provides operations and management services to infrastructure projects during construction and operation.

eleQtra assignments:

- **Cabeolica Wind Farm, Cape Verde.**
- **Kalangala Infrastructure Services;** Uganda for the construction oversight and management of the ferry, road improvements and electricity generating components of the project.



Road widening and up-grade - Bugala Island, Uganda

Why eleQtra is different

Greenfield Infrastructure development and investment is a highly entrepreneurial endeavour. Success in this industry requires tenacity and a broad set of skills including; the negotiation of satisfactory engineering, construction, fuel/feedstock supply and off-take contracts, securing required government permits, raising debt and equity financing and completing construction on schedule and within budget.

eleQtra staff includes over 25 professionals covering engineering, legal, financial and with fluency in multiple languages.

All are dedicated to the services we provide and the values we embrace and this diversity allows us to offer local services in most regions of Africa, from French speaking West Africa to Portuguese speaking Cape Verde and Mozambique. Most of our specialists in the development teams each have in excess of 15 years experience in their chosen fields, mainly gained in sub-Saharan Africa.

E L E Q T R A

The success of our approach can be seen in the number of firsts eleQtra has achieved:

■ eleQtra managed the start-up, establishment and first 8 years of operation of InfraCo Africa, a first of its kind, publicly owned, emerging markets infrastructure development company.

■ The first multi-sector PPP structure in Uganda including power generation, water production and distribution, commercial ferry operation and road upgrade and maintenance, for Bugala Island, Lake Victoria.

■ Cabeolica, Cape Verde, the first utility-size wind farm developed as an Independent Power Production facility in Sub-Saharan Africa.

■ eleQtra has provided the expertise in the design of PPP structures and regulatory know-how, and was the first company to take a project through the complete regulatory process for an independent power producer in Ghana.

■ We have a responsibility to set high standards: to be, and be seen to be, a business which is committed to integrity. We operate our business to the highest professional standards, on the basis of honesty, integrity, openness and fairness in business dealings, both internally and externally.

Project In Operation: Cabeolica Wind Farm, Cape Verde

InfraCo Africa and eleQtra have developed Cape Verde's wind resources. This project is the first large scale PPP for wind power production in Sub-Saharan Africa.

The \$85 million Cabeolica wind power project provides four islands in the Cape Verde archipelago with renewable power. The four farms supply 30% of the country's electricity. The project substantially reduces greenhouse emissions and enables the country to conserve foreign currency that would otherwise be used to purchase fossil fuels.

Cape Verde has some of the best wind resources in the world and has no indigenous supplies of gas or petroleum.

For both eleQtra and InfraCo Africa, Cape Verde is an ideal place to prove the feasibility of this new approach to wind energy production in the region.



The project consists of:

- Four wind farms on the islands of Santiago, S.Vicente, Sal and Boa Vista islands with nominal capacity of approximately 10MW, 6MW, 8MW and 4MW respectively.

- Installation of more than 30 wind turbines on the four islands - the combined installed capacity is around 25.5 MW, for a total generation in excess of 90,000 MWh per year. This is expected to bring wind energy penetration in the national energy system to a level of 30%.

- Funding for the debt of the project has been provided by the European Investment Bank and the African Development Bank.

- The project became fully operational in 2011.

- Equity shareholders of the project include the Africa Finance Corporation and FinnFund - together with InfraCo, the government of Cape Verde and the local power utility.

- The project will help reduce the country's current power shortages which have been identified as a major constraint on economic growth.

- Key components such as the structure and documentation of the project are being replicated as much as possible in the Leona Wind Farm Project in Senegal which is currently under development.

Project In Operation: Kalangala Infrastructure Services, Uganda

The Kalangala Infrastructure Project is a US\$45 million multisector infrastructure project aimed at establishing a for-profit utility company to serve the population, institutions, and businesses of Bugala Island on Lake Victoria.



In addition to the upgrading to “Class B Gravel Standard” of the 66 km main island road, the maintenance and management of which will be turned over to the Government of Uganda following completion, the project consists of:

Ferry - The provision of commercial marine transportation services through the construction and operation of two new roll-on/roll-off passenger and vehicle ferries, and the re-construction of the landing sites at Bukakata (Mainland) and Bugoma (Bugala Island) improving safe and reliable transport to the Island. The first ferry became operational in 2012 with the second currently under construction.

Water - The provision of a safe drinking water supply, through the construction and operation of a series of solar-powered pump based water supply.

Power - The provision of electric power service through the construction and operation of a 1.6MW hybrid solar/diesel power generating facility and a transmission and distribution grid bring energy to the settlements on the Island.

A Unique Approach to Financing Rural Infrastructure

The novel approach adopted to finance the project consists of the private placement of rated local currency notes which benefit from a partial credit enhancement issued by The United States Agency for International Development under its Development Credit Authority (DCA) which ultimately reduces the risk to the project and the private sector investors.

Key components such as the structure and documentation of the project are being replicated as much as possible in the Lake Albert Infrastructure Project in Uganda which is currently under development with our partner Tullow Oil.

Project Pipeline: Cenpower, Ghana

eleQtra is developing a 340MW, gas and oil fired, combined cycle power plant in the municipality of Kpone within the Tema industrial zone, Ghana. In addition to providing urgently needed low cost, reliable and efficient thermal power to the deregulated Ghanaian power market the project will become one of the main off-takers of the West African Gas Pipeline.

The \$600 million project is an innovator in the Ghanaian power sector, providing templates for future projects in several areas.



The project will include the following:

- Establishing a contractual framework - for power off-take, fuel supply and interconnection and wheeling which is acceptable to project finance lenders
- Structuring a balanced but financeable loan security package with the Ghanaian Government
- Improved access to electricity in Ghana
- Increased usage of the West African Gas Pipeline capacity
- The project was developed in partnership with Africa Finance Corporation and local developer Cenpower Holdings Limited
- The project will result in improved access for 7.5 million people and additional usage by 1.5 million people
- Through its high efficiency, combined cycle technology - the project will produce low cost electricity with minimum impact on the local and global environment

Irrigation pivot – Chiansi, Zambia

What sets us apart from many other project development organisations is that we believe that success is achieved by placing the management of a project in the hands of a single lead developer who is the only person responsible for all aspects of a project's development and investment, be it commercial, legal, financial and technical.

Project Pipeline: Chiansi, Zambia

The Chiansi irrigation project is designed to be a template for future development of large scale irrigation projects in Africa. The US\$32 million project combines smallholder and commercial farmers into a new entity that will deliver state-of-the-art irrigation infrastructure for food production. The project will replicate the proof of concept pilot project, successfully implemented in Chanyanya, Zambia, in 2008.

The core objective is to establish a partnership between small holder and commercial farmers providing them with access to year-round irrigation with centralised management to create a sustainable commercial farming operation with pro-poor benefits.

In addition, the project will include:

- Centre Pivot irrigation infrastructure - associated pumping, piping and infield development of a 2,400 hectare farming operation, double cropping with a wheat and soya bean rotation.

- Provision for 650 smallholder families (up to 6,500 individuals) - with year-round irrigation services, enabling them to enhance their incomes through profitable commercial-scale farming as well as from irrigated 'market garden' plots.

- Pumphouses, canals and bulk water - to service the irrigation pivots and the 'market garden' plots for smallholders.

- Potable water to service the communities involved in the project with safe drinking water.

- Extension of the local electricity grid to public buildings - such as schools, clinics and community centres in the project area.

- An innovative financing structure to provide the necessary project financing - the project has secured a grant for \$10 million that will underpin its financial returns. The provision of this grant will provide a financial cushion that is essential in greenfield agricultural projects of this nature. In exchange for access to their land through long-term leases, the small-scale farming communities and commercial farmers will secure an equity stake in the project company. The project company will own the irrigation and farming assets and lease land from the various smallholder communities and commercial farmers.

- A 'double bottom line' impact for potential investors in the project - since the project will provide financial returns and social impact returns to the local community.



Project Pipeline:

Nairobi Commuter Rail, Kenya

eleQtra is working with Kenya Railways to develop the Nairobi Commuter Rail Project. The Project will involve the rehabilitation of approximately 60 km of the existing rail system within Nairobi, the construction of 5-7 km of new track to the Jomo Kenyatta International Airport (JKIA), the rehabilitation or construction of stations and other facilities along the network, the integration of a new signalling system and new purpose-built rolling stock.



The Project is being implemented as a Public Private Partnership between Kenya Railways, the Government of Kenya and InfraCo Africa.

The Project will expand social and economic opportunities for all residents, introducing modern efficient equipment and reducing congestion in and around Nairobi.



The main aspects of the project are:

- The Project will replace the existing inefficient rail, signalling equipment, stations and locomotive-hauled coaches with modern and efficient rail infrastructure and passenger coaches with new technology that is more suited to commuter rail operation.
- It will provide a link to the Jomo Kenyatta International Airport, to enable smooth and rapid transit between the airport and the Nairobi Central Business District, further cementing Nairobi as the commercial hub of East Africa.
- The Project will provide dependable transport services allowing residents of Nairobi to commute to and from work reliably, and open up new opportunities for employment and housing for all its users, including lower-income residents of Nairobi.
- The Project will be a Public Private Partnership under which the Project Concessionaire will operate the infrastructure, including rolling stock, under a Concession Agreement.
- As the second major urban transportation project in sub-Saharan Africa and the first outside South Africa, it will have a significant demonstration effect for cities across the continent of Africa, most of which face extreme congestion and a lack of urban transport infrastructure.

Case Study: Project With Early Exit; Muchinga Power, Zambia

Zambia is likely to experience power shortages over the coming years, given the pace of development of its mining sectors and overall increase in economic activity. The Muchinga Power Project was designed to develop an independently owned hydro project on the Lunsemfwa and Mkushi rivers in central Zambia to serve the growing domestic and industrial demand for power in Zambia. The project is expected to produce 200 MW of sustainable hydro power using the existing Mita Hills reservoir in central Zambia.

The project will connect to the national grid and will potentially be able to export energy to neighbouring countries in the Southern Africa Power Pool.



Muchinga Power Company (MPC) was established in 2010 as a Joint Venture between of Lunsemfwa Hydropower Company Limited (LHPC) and InfraCo Africa.

The project was divested in September 2012 to LHPC (a company majority owned by the SN Power subsidiary Agua Imara). Development continues under management of Lunsemfwa Hydro/Agua Imara and construction is expected to start in 2015.

This early project divestment marked the culmination of a successful cycle of early development by eleQtra, with the assistance of InfraCo Africa. eleQtra provided a vision and conceptual approach that complemented the resources of the project sponsor group. eleQtra helped transform the project by developing a new technical approach that effectively doubled the output of the project using the same flows of water.

This change enabled the local sponsors to attract new international investors into the project and accelerated the pace of project development.

The main benefits of the project are:

- The project will boost the generation capacity of the country by approximately 15% and address a growing demand for electricity in the country and in particular the harmful impacts of power cuts and brown outs currently caused by lack of available energy in the country.
- The project will deliver reasonably priced energy to approximately 10% of the total population of the country.
- As a pioneering initiative it is the first privately owned hydro with significant local ownership; InfraCo Africa plans to use this as a model for future replication.
- This will be the first hydro Independent Power Project in Zambia to supply the South African power pool.
- In the longer term the project could act as a catalyst for similar developments in Zambia and across Africa.
- Creation of 225 full time jobs.

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