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karebo



COMPANY PROFILE

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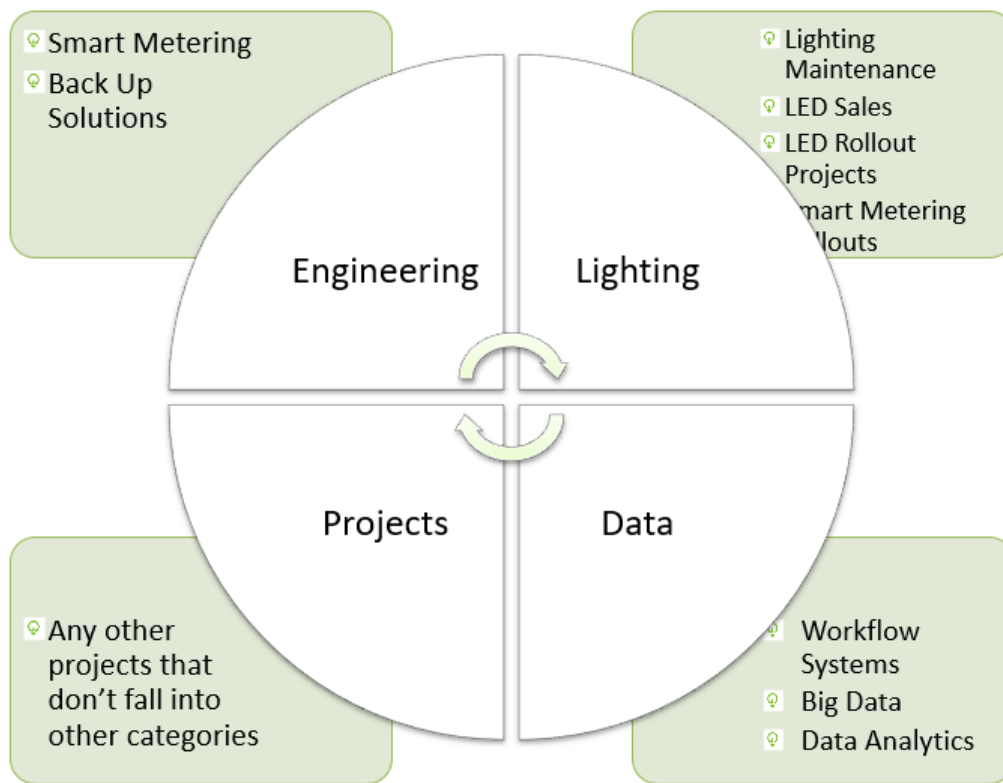
1. Executive Summary

The Karebo Group is made up of Karebo Engineering, Karebo Lighting, Karebo Systems and Karebo Projects.

Karebo has extensive experience in developing, managing and rolling out large scale projects. This document outlines some of the notable past achievements and our capabilities. We pride ourselves on providing a tailored solution to address the specific needs of our customers.

2. About Karebo

The group is made up of Karebo Engineering, Karebo Lighting, Karebo Systems and Karebo Projects. The key focus areas are as follows:



Karebo has a wealth of experience in large scale projects. These projects span a broad cross section of the industry and cover:

- Smart Metering
- Substation Construction
- Smart Metering Installations and Audits
- Electrical Maintenance

2.1. Large Scale Project Experience

Karebo, as a company has been involved with Demand Side Management since 1999 through the following projects between 1999 and 2003:

- BONESA Project – Karebo Systems was a shareholder in BONESA Electricity (Pty) Ltd. Bonesa Electricity (Pty) Ltd trading as Bonesa was a joint venture company, which was primarily formed to establish and implement the Efficient Lighting Programme in South Africa. This venture was jointly funded by Eskom (regulated business) and the Global Environment Facility (GEF), through the International Finance Corporation (IFC), who is the private sector lending arm of the World Bank. The partners in Bonesa were made up of Eskom Enterprises (through TSI), Africon Engineering and Umongi-*Karebo*, with TSI taking up a 45% shareholding in the company and the remaining two partners taking up 26% and 29% respectively. Bonesa's primary objective over a three-year period, was to transform the market so that the CFL becomes the lighting device of choice throughout all South Africa's communities.

The key objectives of the ELI project were as follows:

- Market Transformation and Education - This program involved the introduction of Compact Fluorescent Lamps to the domestic sector. Vigorous education campaigning was undertaken through the media and television medium. This program also involved high level negotiations with the various lamp manufactures in the reduction of the shelf price of these technologies. The lowering of household energy costs, thereby making more disposable income available, particularly to South Africa's previously disadvantaged population;
- Schools and Tertiary Program - The introduction of a learning module in energy efficiency was the objective of this program. Grades 5 to 7 were the target market for the primary and secondary schools and the engineering facility was the target sector in the technikons.
- Reconstruction and Development Program - This program involved the introduction of efficient lighting technologies into newly constructed and existing RDP homes. The program was undertaken with the support of the local municipalities.
- Commercial, Industrial and Institutional Program - This program involved the undertaking of energy efficiency measures in the various market sectors, namely; Commercial, Industrial and Institutional. The program involved conducting audits, project design, Efficient Technology Procurement, Facilitating retrofits and project management of the energy measures. Bonesa successfully undertook the following projects:
 - Natal University, KZN - Annual Savings of 584 000 KWh and 584 tons of CO₂.
 - Edendale Hospital, KZN – Annual savings of 1 820 000 KWh and 1 820 tons of CO₂.
 - Department of Minerals and Energy, Pretoria – Annual savings of 869 000 CO₂ and 869 tons CO₂.
 - National Electricity Regulator, Pretoria - Annual savings of 113 000 KWh and 113 tons of CO₂.

- Johannesburg Civic Centre, Johannesburg – Annual savings of 4 082 000 KWh and 4 082 tons of CO₂.
- Sasol Mining South Africa, Secunda – Annual savings of 1427 000 KWh and 1427 tons of CO₂.
- 120 Plein Street, Parliamentary Complex, Cape Town – Annual savings 2 945 000 Kwh and 2 945 tons of CO₂
- Enerweb – A key member of the Enerweb team was a director of Karebo – Dr Martin Smit. Martin was seconded to Enerweb by Karebo and was responsible for the following:
 - Customer interaction, customer needs analysis. (High profile customers, contracts running into several R million)
 - Design and development of custom solutions to solve these needs
 - Identification and implementation of Enerweb research strategy (DSM, Applied IT, Generation Fuel and Power Market portfolios)
 - Close interaction with customers to identify their requirements.
 - Long/short/medium term risk management tool design (for Eskom International Trader)
 - Completed Business Architecture design for successful Nampower electricity trading system tender.
 - Implementation of various market based Demand Side Management (DSM) initiatives.
 - Comp Real Time Electricity Price (RTP) re-design and optimisation.
 - Extensive statistical analysis of power pool price behaviour
 - Load forecasting
 - Tariff analysis
 - Hedging strategies
 - Calculation of Client Base Load for Real Time Pricing (RTP) clients.
 - Development of client response models – Long and short term
 - Development of graphical “Risk Tool” to facilitate risk management for various clients and pricing structures (Monte Carlo)

The current managing director of Karebo Systems – Ravi Govender has a Masters in Electrical Engineering from UKZN specializing in Demand Side Management. He was part of the national steering committee that put together the M&V framework that the original Eskom DSM program was measured against. He also led the UKZN M&V team from Jan 2002 to Dec 2003 before he decided to leave to join Karebo.

Since joining Karebo in 2004 he has ensured that his passion in developing solutions that transform and promote DSM has helped to place Karebo at the forefront of energy efficiency in the country.

Under the leadership of Ravi Govender Karebo has been very focused on increasing the penetration of DSM in the South African environment and beyond. Karebo has been involved in several notable projects in this arena – some of which are highlighted below:

- Karebo has been responsible for developing the framework and methodology to develop and implement large scale mass rollout programs. Karebo pioneered the mass rollout of CFLs for

Eskom and on this foundation there has been several other programs that have spawned off this. Some of these are:

- Mass Rollout of Solar Water Heaters
- Residential Mass Rollouts
- Karebo has developed and successfully rolled out more than 43 million CFLs for Eskom accounting for more approximately 1800 MW of peak demand reduction – this was often done under crisis conditions like the 2006 Koeberg incident where 5.5 million CFLs were rolled out in the space of 4 months (from date of contract to final completion including emergency procurement of lamps). Another case in point is the rollout of 13.8 million CFLs in 2008 in the space of 5 months (contract start date of 14 July 2008 to practical completion of 14 December 2008)
- Developed the first large scale LED programs that were funded by Eskom. At that point it was the first and largest LED rollout approved anywhere in the world.
- Was involved in both of Eskom's Residential Mass Rollout phases – the only party contracted in phase 2 – that implemented projects in the residential sector accounting for approximately **100 MW of verified peak demand reduction. Each phase to approximately 4 months to complete from start to finish. This involved visiting more than 180 000 households in LSM 6 to 10 within that 4-month period.**
- Was contracted by the World Bank to assist Malawi on an advisory basis for the first CFL program rolled out in that country
- GIZ has contracted Karebo, under the South African-German Energy Programme (SAGEN) funded by the German government, to assist SANEDI with the rollout and implementation of the Section 12 L legislation. Section 12L are the new tax incentive that incentivises all forms of verified energy savings (all energy carriers) through the tax system
- Have completed shared savings agreements with private listed companies where some of the projects were self-funded and paid back from the savings
- Has been recently appointed by the EU through the European Commission to implement Solar Power Lighting to Communities and Schools in Lesotho. This is a project with a contract value of Euro 5.866 million.

All of the above prove the following with a shadow of a doubt:

- Karebo has a deep track record of implementing large scale projects on time and within budget
- Karebo has executed multiple projects

2.2. Recognition and Awards

Karebo received multiple awards for excellence in large scale rollouts. Below is the award from Eskom in that was awarded as part of the Eskom ETA Awards:



2.3. Quality and Professional Standards

The Karebo Group is ISO 9001 (2015) accredited. We have maintained our ISO accreditation since our initial accreditation in 2011.

Karebo Engineering has professional staff that have qualifications that range from MSc Engineering to National Diplomas in Engineering. The above staff are competent in :

- Design
- Project Management
- Project Execution
- Procurement
- Construction

Karebo Lighting is registered with the ECB as an electrical contractor.

Karebo has multiple team members that have ORH HV Regs and that are qualified and authorised to work on medium voltage and high voltage installations.

Karebo has qualified wireman and electricians on its fulltime staff complement.

2.4. Shareholding and Empowerment

- Karebo is 100 % Black Owned
- 51 % Black Woman Owned
- Level 2 BEE Contributor
- Our staff complement is made up of young bright energetic black professionals that want to make a mark in their field.

2.5. Current Facilities and Capacity

Karebo has the following facilities:

- ❖ Offices and Administration Facilities in Woodmead
- ❖ Dedicated warehouse of more than 600 Sqm in Midrand
- ❖ Dedicated office and storage space in Durban
- ❖ Dedicated office and storage space in Cape Town

Over and above that Karebo has a fleet of more than 20 vehicles that are used to service the various sites that are visited daily.

Below are pictures of some of our facilities and vehicles.



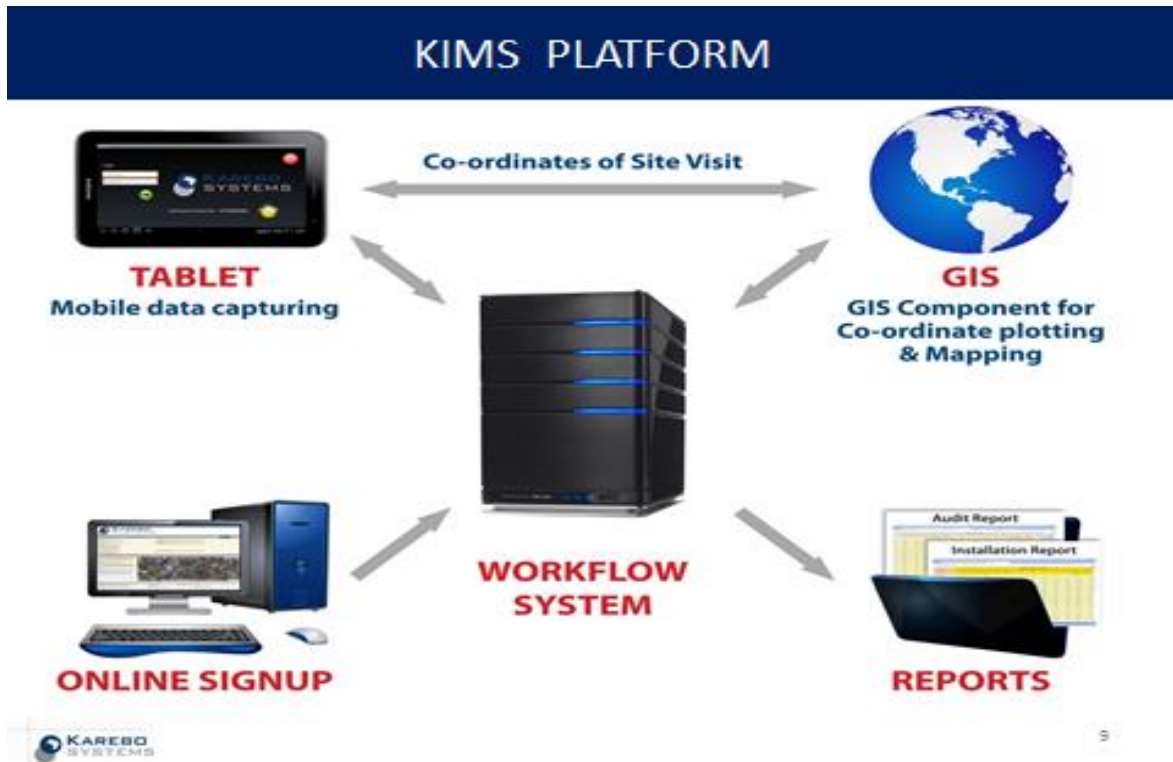
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3. Project Management

We utilize sophisticated IT systems extensively to ensure that our team operates in a smart and efficient manner and to ensure that we can effectively control large projects spread out over a wide geographical region. We call our platform KIMS – Karebo Information Management System

Outlined below is a graphical representation of an example of the KIMS platform.



The field team and audit teams will be equipped with a handheld data tablet with a pre-built application that would capture the data elements listed below. The field worker will sequentially go through the data gathering process and capture GPS coordinates, pictures and data elements required.

A database structure will be defined in the backend that will allow all the data captured from the field to be stored. The tablets will enable data to be stored locally and then send electronically based on the availability of the data networks. We have successfully used this system for audit field work for clients such as Eskom, Vodacom Pilot School Tablet rollout project, SANEDI 12L Implementation and the Edgars energy efficiency project.

4. Conclusion

Karebo has a proven track record in delivering a quality service and we look forward to engaging with you to demonstrate our solutions and capabilities.



THANK YOU