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Green Goal 2010: The Greening of SAFA House

The Green Goal 2010 initiative is aimed at reducing the environmental impact of the 2010 FIFA World Cup on South Africa's environment, as well as to use the World Cup as a platform from which to promote and educate South Africans about environmental issues.

Pretoria — 30th March 2010

The 2010 FIFA World Cup Organising Committee of South Africa (OC) has committed itself to adhere to sustainable development principles during the planning and hosting of the *FIFA World Cup™*, a commitment which is binding on the host cities and FIFA through the Host City Agreement signed by all parties.

In light of the OC's commitment to safeguard the environment and to reduce its carbon footprint, it launched its *Green Goal 2010* initiative last year, with the primary goal of both reducing the environmental impact of the 2010 FIFA World Cup on South Africa's environment, as well as to use the World Cup as a platform from which to promote and educate South Africans about environmental issues.

This was re-emphasized by the OC *Chief Executive Officer, Dr. Danny Jordaan* on the launch of Green Goal program, when he said, "We must use the platform of the World Cup to focus on the environment. Our focus is that it must not just raise awareness but also change our attitude toward the environment."



Figure 1: The Green Goal program – an official FIFA initiative.



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The Greening of SAFA House

To this end the OC, in partnership with the *Central Energy Fund* (CEF) and the *French Development Agency* (AFD), has lead by example in establishing SAFA House, the football head quarters of South Africa, as an energy-efficient green building through retrofitting of energy efficient lights, the introduction of timed motion sensors in offices and meeting rooms, and the installation of intelligent switches in the basement parking areas.

The building, previously lit 24 hours, seven days a week, with no light controls in the offices and meeting rooms, now boasts a significant (+25%) reduction in its energy use.

Energy Audit highlights potential savings

In consultation with its key stakeholders, a detailed energy audit of the premises was conducted. The key objectives of the energy audit were to:

- To assess energy consumption levels and related cost;
- To assess the types of lighting and water-heating systems currently used;
- To assess the frequency of changing lights and related cost, (maintenance implications and costs);
- To report on audit recommendations, cost of implementation and anticipated energy savings;
- To source funding to implement the recommendations; and
- To implement the audit recommendations.

Baseline energy consumption was measured, and funding for the recommended energy efficiency interventions arising from the energy audit, was sourced, with the French Development Agency (AFD) in Johannesburg agreeing to fund the lighting aspect of the audit recommendations, and the *Energy Development Corporation* (EDC) at CEF agreeing to fund the supply and installation of Solar Water Heating (SWH) (which replaces the existing electrically-operated water heating system).



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Conduct Energy Audit at SAFA House	Completed in 2009
Sign MOU between CEF, OC and Service Providers for Energy Efficiency retrofit	Completed in 2009 (Dec)
Implement Lighting Audit recommendations	Completed in 2010 (Jan)

Table 1: Greening of SAFA House Milestones

Energy efficiency solutions

According to Hassiem Salie, CEO at *Kgwanype Energy Solutions*, the SAFA House installation included the modification and retrofit of some 380 1-bulb dichroic units, more than 140 2-bulb dichroic units, as well as a smaller number of 3-bulb and 4-bulb dichroic units. In addition, 75 Intelligent Switch Units (ISU0801) were installed in the Light Fittings in basement parking areas, and more than 130 Timed Motion Sensors now service the office and conference areas.

Says Salie, "With an Intelligent Switch installed in every second fitting in the underground parking areas, we can immediately achieve a 50% energy saving using a suitable lighting fragmentation profile. The CFL replacements themselves reduce lighting energy consumption dramatically, and this is augmented by the Timed Motion Sensors in the office and conference areas, where we can expect energy savings in excess of 30%."

The resultant savings

Based on SAFA House's audited *Baseline Demand* (before energy efficiency retrofit) and its newly measured *Actual Demand* (after energy efficiency retrofit), the resultant energy savings measured vary from 16-25% during the working week, to 40% over weekends.

Actual Weekdays Impact	16% (Morning peak) to 26% (Morning standard)
Actual Weekend Impact	30% (Sat morning peak) to 40% (Sunday off-peak)

Table 2: SAFA House Energy Consumption (Audited) February 2010



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Adds Salie, “Based on the audited figures, we have every expectation that SAFA House will see an ROI of less than 18 months. SAFA House is now a flagship green building, espousing the thinking behind The Green Goal 2010 initiative, and is well positioned to be used as a benchmark in the promotion of energy efficiency and environmental issues.”

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Notes to Editor

About KES

Kgwanype Energy Solutions’ (KES) mission is to design and develop simple, affordable and flexible solutions, focused on energy efficiency and associated energy and cost savings for its customers.

KES is a preferred supplier Energy Services Company (or ESCO), assisting ESKOM with its Demand Side Management (DSM) program. It is also a member of The Southern African Association for Energy Efficiency (SAAEE), one of 67 international chapters of the American Association of Energy Engineers (AEE), a body committed to energy efficiency, utilising innovative energy service options, enhancing environmental management programs, upgrading facility operations, and improving equipment performance, ultimately bolstering the bottom lines of organisations.

KES was recently awarded the Africa Energy Awards 2010 “The Best Leadership in Skills Development”.

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Key Energy Efficiency facts

- 72% of world energy is consumed by infrastructure, industry, buildings and residential markets.
- Eskom electricity tariffs will have increased by more than 330% over the 5 years from 2007-2012.

	2007	2008	2009	2010	2011	2012
Annual tariff increase		27%	31%	25%	26%	26%
Cumulative tariff increase	100	127	167	208	262	330

Table 3: Effect of Eskom tariff increases on baseline electricity costs in SA.

- Energy supply will be constrained in the short to medium term as Eskom’s funding crisis exacerbates the building of the infrastructure required to serve South Africa’s energy requirements. As a result businesses and consumers are compelled to become more energy efficient. There is no other choice.
- The energy crisis is a global problem, not a uniquely South African problem.
- KES can provide significant energy savings (30%+) to these markets with its energy efficiency solutions, **today**.