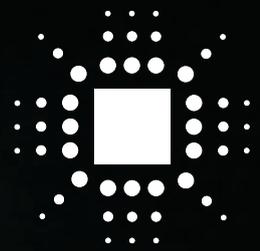


illumination done right  
leads to possibility  
profitability  
sustainability



LIGHT  
KINETICS

*Sustainable Lighting and  
Energy Solutions*

# Light Kinetics

**When Light Kinetics refers to illumination, we don't merely mean lighting a space. Illumination, to us embodies the recognition of what intelligent lighting design and world class products can do for the environment, your business and balance sheet.** Since 2007, we've dedicated ourselves to the business of sustainable, affordable energy efficient lighting and energy solutions.

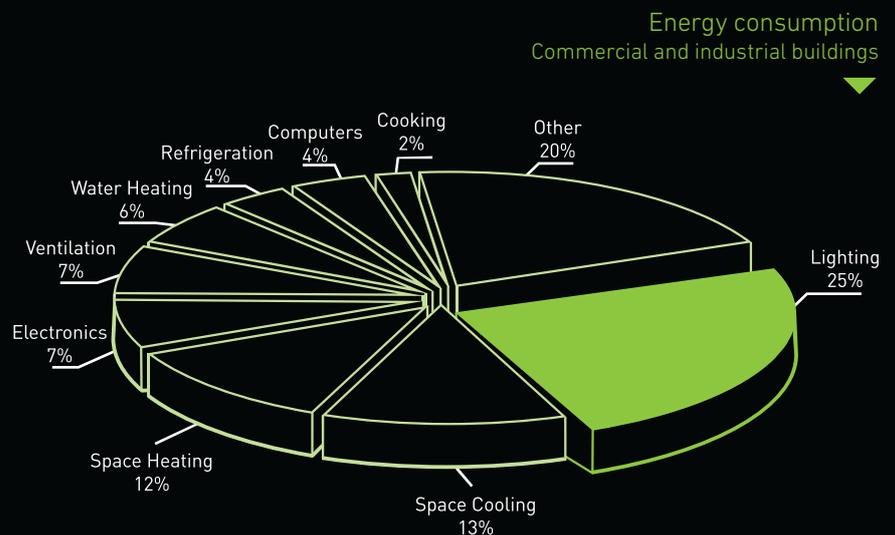
We opened our doors in 2007 and quickly became South Africa's award winning energy efficient lighting design and product specialist and the leading designer and supplier of energy efficient lighting solutions. We offer advanced lighting engineering design services coupled with the world class energy efficient lighting products and solutions, including high-power LED Lighting, Daylighting and Lighting Controls.

Our multi-layered intelligent approach allows for the creation of profitable energy efficient spaces for new and retrofit customer applications. Our primary focus is on economically feasible, payback friendly solutions for retail stores, malls, parking facilities, warehouses, offices and public spaces. Large-Scale Solar PV and turnkey solutions are also offered including project management and project finance.

Our real success comes, however, through working not only with suppliers who are best in class but with customers who share our vision of a truly sustainable and energy efficient future.

## Industry Facts

According to the U.S Department of Energy, over 30% of total energy consumption for commercial and industrial building in the U.S was attributable to lighting. South Africa is similar.



# Our promise to you

## A pioneering spirit

In 5 short years we've produced 2 world firsts and 20 SA lighting firsts including South Africa's first road of LED street lighting. We've also been recognised as a leader in our field by winning the Eskom ETA Awards in 2009 and, through our customers, many other awards

## Radical thinking

Light Kinetics' radical thinking and innovative solutions go hand-in-hand with our forward-thinking customers who are looking to achieve the extraordinary by investing a little extra time and thought into an otherwise potentially mundane aspect of property development and energy optimisation – lighting.

## Extraordinary outcomes

We have a deep and considered understanding of our customers' real lighting and energy needs, and to focus on minimising capital costs through the application of real lighting engineering design skills results in extraordinary outcomes.

## The best in LED lighting technology products and know-how

Not all LED lighting is created equal. While most traditional lighting companies are only now investigating LED technology, it's been our focus for 5 years already. We encourage all potential customers to carefully research the best LED solutions from the best manufacturers and local suppliers. Claimed LED life should be substantiated and independently certified photometric, light and electrical performance data must be available. IEC certification conformance is essential to retain compliance with SABS standards and your property insurance policies.

## Mass rollouts = Mass savings - We have the skills and capacity

Light Kinetics has the capacity, appropriate business strategy and financial resources to enable and manage large scale energy

efficient lighting roll-outs nationally and in sub-Saharan Africa. We already actively work in 9 African countries.

## Highly efficient daylight solutions – There's no better efficiency than OFF!

Use daylight. Wherever possible switch off electric lights! Our Sunoptics daylighting solutions allow most spaces with a soft top (IBR, Cliplock etc.) to operate exclusively on daylight for up to 80% of the day.

## Greater control - No control means no savings

Where daylighting is used, energy saving is not possible unless an automated lighting control

system is designed and implemented. We use the Lutron range of lighting and energy controls to achieve significant energy savings. Globally Lutron is the largest lighting controls company and invented dimming 50 years ago.

## Guaranteed performance promises

At Light Kinetics, when we promise a certain payback period and product/system performance ratio, we mean it. All too often, lighting companies make promises that are, frankly, too good to be true.

We can substantiate our specific performance ratios and life expectancy estimates and stand by the numbers we present to you.



# Annual savings delivered by Light Kinetics initiatives over the last 2.5yrs: **11 million Kilowatt Hours equating to 6 million kilograms carbon emissions or 1 million cars off the road**

## Maximum warranties – Minimal worries

Light Kinetics and its partners offer 5 year warranties on most products and solutions and up to 10 years on some items.

## Partnerships not fly-by-nights

Light Kinetics focuses on achieving long term partnerships with its customers. This leads to long term mutual benefits and trust, leading to even bigger energy savings and to further improved returns on investment.

## Eskom partnership – ESCO initiatives can increase savings

Light Kinetics works closely with Eskom to maximise the potential subsidies offered by

them for our energy saving initiatives. This invariably leads to meaningfully reduced payback periods on applicable lighting retrofit projects.

## Light Kinetics project funding – Our GREEN LEASE off-balance sheet finance packages can be attractive

If off-balance sheet funding makes sense to you, Light Kinetics can configure a fully or partially pre-funded solution for you with shared savings incentives.

This approach often makes or breaks major energy savings initiatives in organisations and is an important value-add service offered by Light Kinetics.

## Mega savings – Our customers, the environment, YOU and your children are benefitting

We do not pay lip service to energy saving. We generally offer 50-90% energy savings on all projects. The numbers speak for themselves.

## Credibility – Some of the world's leading manufacturers and suppliers choose to partner with us

These manufacturers products are formally distributed and backed up by Light Kinetics in South and Southern Africa:

CREE Led Lighting Systems (USA)  
RUUD Lighting/BetaLED (USA)  
SUNOPTICS (USA)  
GENERAL ELECTRIC (GE USA)  
LUTRON (USA)  
ALPHALED (UK)  
LUMENPULSE (Canada)

## Credibility – Some of South Africa's most admired companies have chosen to work with us

Makro, Pick n Pay, Game, Spar, Engen Oil, Ernst & Young, South African Airways, Nestle, City of Cape Town, Growthpoint, Municipality of Ekurhuleni, Municipality of Tshwane, Peerment Group, Atterbury, Shell Oil etc.

## A diversity of sectors

Our lighting solutions are applied to a wide range of market sectors including: Offices, Roads and Highways, Parking Lots, Architectural, Mining, Industrial, Manufacturing, Government, Municipal, Retail, Electrical contractors, Schools and Universities, Freezers/Coolers, Cool temp warehouses, Distribution centres etc.

# South African Case studies

## Pick n Pay on Nicol A South African first

Our site lighting design for Pick 'n Pay's new flagship store in Sandton used an innovative combination of our daylighting solution, state-of-the-art LED lighting and lighting controls. Lighting their large parking area gave us one of our many South African firsts – it became the first site in South Africa to employ a 100% LED solution for all its parking areas, open and covered, including roadways.

When it came to lighting the interior of the warehouse sized store, however, we went old-school, with a thoroughly modern twist. Pick n Pay on Nicol is Light Kinetics first site in South Africa to utilise our daylight harvesting solution and replace electric lighting for 80% of the day for retail trading. This solution was designed by Light Kinetics using the Sunoptics range of thermally insulated 100% diffusing prismatic skylights. Being a new store build allowed the skylights to be integrated into the planned services from the start. Customer response has been impressive, with many customers choosing the store because it just feels so good to be in a daylit store. Financially the store is exceeding initial projections as well. The average energy saving from using the Sunoptics daylighting solution coupled with the Lutron daylight harvesting system exceeds 70%. Coupled with a maintenance free life expectancy of over 30 years this site is a major testament to both energy efficiency and sustainability. Other energy saving lighting initiatives implemented include LED vertical refrigeration lighting and LED façade lighting.

The end result has been so impressive, the site has won numerous accolades including:

- Winning the Eskom ETA awards for 2010
- SAPOA Award for Innovative Excellence 2011 Retail

These initiatives are now being rolled out to other Pick n Pay stores

Initiatives: BetaLED for Street, Open Parking and Underground parking lighting, LED Façade lighting, GE Refrigeration Display Lighting (RDL), Sunoptics Daylighting for the store and Lutron Quantum site lighting control system.

Quick facts  
**170,000 kw/hrs saved**  
**92,113 Kg CO<sub>2</sub>e saved**  
**16,748 Cars off the road/yr**  
**4 year payback**  
(daylighting)

## Solar PV Harnessing the power of nature

There can be no denying that, when done right, solar can make a significant impact on cost and energy usage. At Light Kinetics we offer a range of large scale solar solutions designed for rooftop and ground mount applications. These solutions are targeted primarily at grid-tie applications. Additionally we offer a range of solar powered roadway LED lights using an innovative solar PV and BetaLED solution.

At Light Kinetics, we choose only to partner with the leading suppliers in their field. By selecting our solar solutions you can trust you will receive the best performing renewable energy solution available.

### Pick n Pay on Nicol



# South African Case studies

## Engen William Nicol

### The road ahead

Canopy lighting is a critical component of petrol station lighting for functional and retail presence reasons. Power consumption from this lighting is significant and presents a great opportunity to reduce power consumption and eliminate maintenance for 15 years via our BetaLED LED canopy fixtures. BetaLED are the global leaders in this space having retrofitted thousands of Shell, many Engens and other brand petrol stations already. Each BetaLED fixture incorporates a motion/light sensor and saves further energy by dimming the lights when there is no site traffic. The 15 year life expectancy and vast improvement in light uniformity and level have also contributed to the decision to go with BetaLED.

## Makro Vaal

### Another South African first

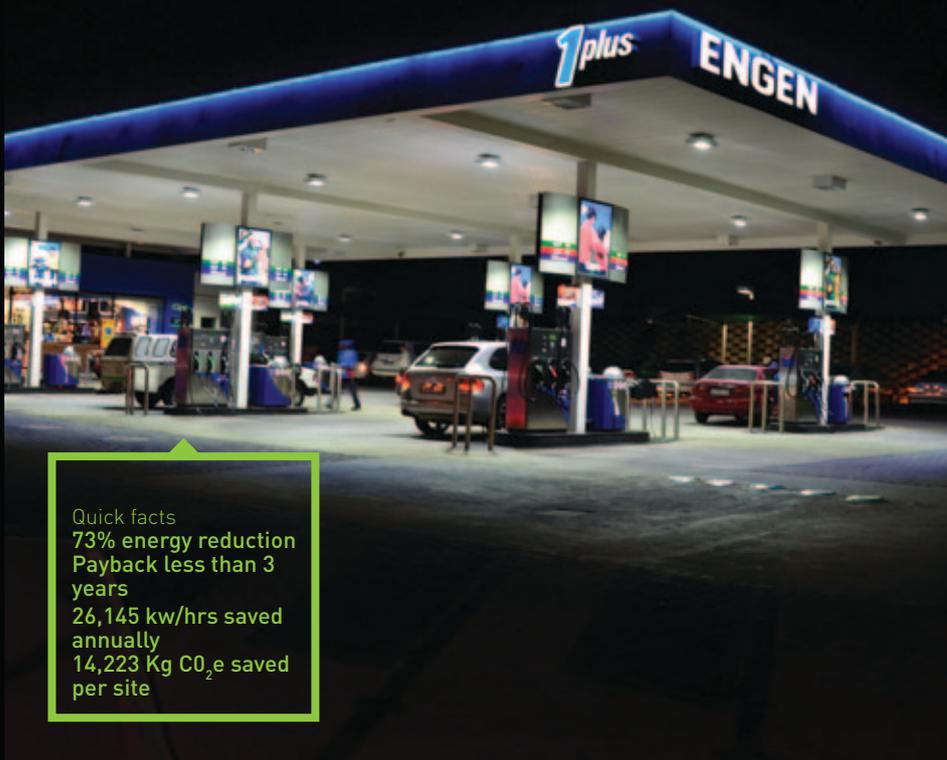
The power of daylighting done right. Studies indicate a 5-15% uplift in sales due to the improved customer experience from the use of daylight and staff absenteeism reduces by around 15%. Furthermore, return of colour sensitive goods by customers reduces by over 80% due to the quality of the new in-store lighting. For these reasons alone, the intelligent use of daylight in retail stores seems a no-brainer. But combine it with high energy savings and it becomes even more viable.

When Makro called us in to answer their energy and lighting needs they became Light Kinetics second site in South Africa to

utilise our daylight harvesting solution and replace electric lighting for 80% of the day for retail trading. This solution was designed by Light Kinetics using the Sunoptics range of thermally insulated 100% diffusing prismatic skylights. Being a new store build allowed the skylights to be integrated into the planned services from the start, maximising results.

Quick facts  
**Lighting Annual Savings**  
**1 000 000 kw/Hrs**  
**96 959 Cars off**  
**the road/yr**  
**533 276 Kg CO<sub>2</sub>e saved**  
**Payback 4 years**

Another component of our lighting design was our LED refrigeration display lighting (RDL) from GE. Apart from the significant savings on lighting energy, a further 45% savings is gained on saving cooling energy. This translates into an 80% decrease over existing fluorescent technology. These savings do not even account for the maintenance free life period of 10+ years and the elimination of planned maintenance (no tube changes). Significantly improved lighting of the products in the coolers and freezers, leading to increased sales, is the cherry on the top. All in all, the green credentials of this site are impressive and provide another argument in favour of sustainable, cost effective lighting solutions.



Quick facts  
**73% energy reduction**  
**Payback less than 3**  
**years**  
**26,145 kw/hrs saved**  
**annually**  
**14,223 Kg CO<sub>2</sub>e saved**  
**per site**

Quick facts  
**RDL Annual Savings**  
**70,000 kw/Hrs**  
**7,000 Cars off**  
**the road/yr**  
**38,080 Kg CO<sub>2</sub>e saved**  
**Payback 2 years**

# South African Case studies

## United Manganese Kalahari (UMK)

### The world's first LED lit mine

The mining industry makes huge demands on the resources it uses. If a solution could be found that would reduce the impact it has on the world, the consequences would be impressive. Which is why Light Kinetics is proud to do business with the first mine, in the world, to use LED and daylight for all its lighting.

Working closely with UMK, Light Kinetics created a solution that includes a full array of Light Kinetics LED, Sunoptics daylighting and Lutron controls that cater for all aspects of mine lighting including explosive proof LED fixtures. This remarkable project is a testament to our customer's vision and concern for the environment as well as Light Kinetics technical skills and understanding of lighting engineering design and sets a major global benchmark in sustainability and green engineering.

This mining project follows our successful implementation of the first LED lit railway track in the world at the same site 2 years ago. Our BetaLED solution have stood up to the arduous Kalahari environment and proved that our lighting design and choices play a significant role in reliably reducing energy usage in the mining sector.

## Oreb Sandton City Style and substance

The fashion world is obsessed with looks. For obvious reasons. So approaching Light Kinetics for an LED solution would seem like an obvious choice.

However when Oreb in Sandton City tasked us with meeting Liberty Properties' challenging new standard of only 35W/m<sup>2</sup> from its current 115W/m<sup>2</sup>, we were able to crush the myth that LED lighting can only be used decoratively.

Working with the Oreb team, we designed a solution that would not only reduce energy usage but would add considerably to the aesthetic of the store. Lighting plays a critical

role in retail spaces. Additionally older metal halide technology UV bleaches standing stock like clothes and shoes. We utilized our range of retail-specific AlphaLED LED light fixtures creating lighting that is as close to natural as it gets, so the colour you see in the store is the colour you get. Add these benefits to the real life savings "LED Done Right" can offer and you have a winning formula.

The payback on this project was less than 3 years, with a 5 year product warranty and life expectancy of 12 years. Not to mention the savings due to the reduction in heat given off by the lights. The end result is an astonishing 18.9W/m<sup>2</sup> for Sandton City's best lit and most energy efficient retail store.

### Quick facts

**Annual energy saving**

**37,883 kW Hours**

**84% energy saving**

**Equivalent to 3 742 Cars  
off the road/yr**

**Payback period 3 yrs**



▲  
Oreb Sandton City

With over 20 local and international lighting firsts, Light Kinetics partners with the best companies in the world to light the way to truly sustainable, energy and cost efficient lighting and energy solutions.

**World firsts**

1. The first LED lit railway track
2. The first 100% LED lit mine

**South African firsts**

1. First road of LED street lighting
2. First installation of high power white LED downlighters
3. First LED canopy lighting for petrol stations
4. First roll-out of LED refrigeration lighting
5. First open parking LED lighting

6. First underground parking LED lighting
7. First complete building facade of LED lighting
8. First installation of daylighting as a primary light source
  - In retail (retrofit and new build)
  - In school
  - In warehouse
9. The first completely LED lit retail store
10. First LED lit theatre
11. First LED lit landscape garden
12. First LED lit mixed use property development



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