



Terms of Reference
LED Lighting Retail Incentive Programme

Location: Local (Gauteng, South Africa)

Application Deadlines: Registration of intention – 20 June 2018; Proposal submission – 8 July 2018

Category: Appliance energy efficiency

Type of Contract: Professional Services Contract

Assignment Type: Retail incentive

Languages Required: English

Starting Date: 15 August 2018

Duration of Contract: Four Months

Background:

The South African government through the Department of Energy (DoE) in collaboration with the Department of Trade and Industry (**the dti**), and the United Nations Development Programme (UNDP) is implementing the project “Market Transformation through the Introduction of Energy Efficiency Standards and the Labelling of Household Appliances in South Africa”, hereafter referred to as the “S&L Programme”. The objectives are removing inefficient electronic appliances from the South African market and encouraging adoption of efficient technologies by implementing measures/interventions such as minimum energy performance standards (MEPS), labeling programs, and incentive programs. The overarching goal is to reduce electricity consumption and the carbon footprint of the residential sector.

Lighting is one of the technologies targeted under this initiative. During the last two decades, significant technology advances were made so we now have several more efficient alternatives to the traditional/simple household lightbulb. For lighting, the possibility of an incentive programme was identified to promote and accelerate the adoption of energy efficient lighting options, specifically LED (light-emitting diode) lamps, for domestic applications.

Between 2005 and 2017 Eskom promoted the use of Compact Fluorescent Lamps (CFLs) as a more efficient alternative to traditional incandescent lightbulbs (A60 style). Over this period more than 62 million CFL lightbulbs were distributed through door-to-door installations / rollouts and exchange points.

Technology advances mean that LEDs now offer a more efficient alternative for conventional lighting. A study¹ concluded in May 2017 showed that high quality LED lightbulbs were still comparably expensive and suggested an incentive to promote the adoption of LEDs. The study also raised concerns regarding the available options and quality of lamps being sold.

Market feedback and observations of retail shelves suggest that this has shifted significantly over the preceding 12 months with a larger variety of LEDs globes available, a bigger share of shelf space allocated to LEDs and prices competing directly with Halogen and CFL alternatives. The narrow band of prices also suggests that quality issues are not prompting a reversal to old technology, but rather more selective future purchases i.e. market forces will potentially take care of poor quality products. This has however not been confirmed and may not be true for all consumers across all income groups.

¹ Harris, P. Baran, C. Hazard, C. Market based economic incentives for energy efficient appliances in South Africa, May 2017. Development Associates ApS, Denmark.

Currently South Africa does not have a mandatory safety and performance specification for self-ballasted LEDs. It is believed that poor quality LED lamps are finding their way into obscure retail outlets in the country at very low prices. It is also believed, based on international experience, that poor quality inefficient lighting options (old stock, illegal imports) may still be finding their way into homes. In the end, this may contribute to giving LED product a bad name.

The S&L programme is focusing on three workstreams to accelerate market transformation, and promote the adoption of high quality LEDs for household applications:

1. Minimum Energy Performance Standards (MEPS). Pursuing compulsory performance (including energy performance) and safety standards for LEDs.
2. Education and Awareness creation. Introducing an information / value label to support existing energy label and aid consumer choices.
3. A Pilot Incentive programme for Gauteng. Trial incentive programme for Gauteng to inform possible national implementation.

Objectives of the Pilot Retail Incentive Programme

The objective of the pilot retail incentive programme is two-fold:

1. Accelerate market transformation among lower middle-income households (i.e. ~LSM 5 – 7) and offering this market segment access to good quality lamps at affordable prices.
2. As a precursor to the next UNDP/DBSA/GEF LED lighting initiative which is scheduled to commence by the end of 2018, use the opportunity to conduct quantitative market research that can inform more focused, future interventions in this market.

Broader objectives of the Retail Incentive Programme relevant to the overall S&L programme include:

- Promote awareness of LED lamps and their benefits
- Promote high-quality LEDs
- Create familiarity with consumers about LED lamps, their performance and important characteristics to consider in purchase decisions
- Increase market demand for LED lamps that will lead to:
 - o increased sales volumes,
 - o improved economies of scale, and
 - o more competitive prices.
- Reduce (directly and indirectly) energy usage for lighting in the residential sector
- Reduce (directly and indirectly) carbon emissions from residential lighting

Accelerate the adoption of LEDs for residential lighting and in so doing reduce the demand for less efficient lighting such as incandescent, halogen and CFL

Proposed Approach

The Pilot Retail Incentive Programme of the S&L Project wishes to pursue a “market lift” incentive activities, i.e. offering a financial incentive to participating retailers, suppliers or manufacturers for qualifying (i.e. that meets a predetermined safety and performance specification) lamp sales in excess of an agreed baseline.

Given the available funds and objective of collecting data to inform future interventions, the incentive will be confined to a limited geographical area within Gauteng and available for a limited number of LEDs over a defined period of time.

Target audience

The primary target market is middle to lower income households in Gauteng [LSMs 5 – 7]. It is understood that it is impossible to control who buys the lamps, but measures can be put in place that will encourage the relevant target market to benefit from the incentive such as prioritizing stock to retailers and outlets that serve the relevant target market

Timelines

The aim is to conclude the incentive pilot by October 2018 to limit the impact on Christmas preparations and promotions, unless an extension of the promotion is agreed with the promotion partners. If possible, 1 August will be targeted as a starting date to secure two months for the pilot. The timeline will however be dependent on the budget i.e. while stocks last. Should the incentive partner(s) wish to extend the timeline within the available budget, this can be agreed, but will be limited to the end of 2018 to ensure all reporting and close out requirements are concluded by end January 2019.

Historic lamp sales data from the relevant retailer(s) and/or manufacturer(s) will be used to inform the targeted promotion timeline.

Number of lamps

The number of LED A-lamps included under the promotion will depend on the offers received from interested partners but, is hoped to achieve additional sales of at least 150 000. The final number will be agreed with selected partners and will be dictated by the available budget.

Quality of lamps and product testing

The promotion will be applicable to LED globes that comply with minimum safety and performance specifications (refer Appendix A). Partners (retailers and/or suppliers) will be responsible to specify the safety and performance specifications to manufacturers or suppliers from where lamps are sourced and to request confirmation that the supplied products meet the specifications.

Partners are requested to confirm that the lamps / products sourced comply with the specifications and to submit test reports confirming compliance. The S&L project team will select up to 10, random LED product samples from the promotion for testing to verify compliance with the technical specifications. Should test results find non-compliance, the final incentive payment will be held back until the results are confirmed by three independent test laboratories. If a common resolution cannot be found, the final incentive fee will be forfeited.

It is recommended that partners structure supply agreements with lamp manufacturers appropriately to specify delivery of compliant lamps and an appropriate recourse for non-compliance.

Promotion approach and data integrity

The participating partners (suppliers and/or retailers) will be free to implement any variety of measures to promote the sales of qualifying LED lamps. The “financial incentive” can be passed through to consumers² and/or be used for administration, marketing or other costs associated with running the promotion. Incentive payments may also be used to incentivize sales people or reward best performing sales persons.

Incentive payments will be based on additional sales relative to an agreed baseline. A market-lift programme is entirely dependent on a sound baseline and measured market lift. Information sharing will be key to establishing the baseline and calculating additional sales numbers. An appropriate data sharing arrangement will be necessary to ensure the required levels of confidentiality and data integrity is achievable. It is proposed that a credible, independent *Evaluator* (audit firm, monitoring and evaluation specialist company or university) be used to analyse and audit data, to establish the baseline and calculate and report additional sales in accordance with the agreed methodology.

The S&L programme will support the promotion with marketing and awareness, using established channels (i.e. website, local news publications, etc.).

Market research and market data

A market research study will be conducted in parallel to the promotion. Partners will not be required to do the market research but, are requested to allow researchers at participating outlets as well as non-participating outlets as these may be used to broaden the research area and/or serve as a control group.

Implementation Framework and Requirements

² Up to a reasonable limit as not to give a distorted picture on real consumer preferences vis-à-vis other lamp alternatives. In the case using a price incentive, this should be clearly indicated in the results reports. To see how the price of LEDs influences a consumer’s purchase decision, a retailer could experiment with different approaches, e.g. one store that sells with no price incentive, and a second store that sells with a price incentive, and then compare the results.

Activity	DoE / UNDP programme role	Retailer / supplier requirements (indicate as accepted or propose and alternate)	Additional considerations and/or clarification notes
Incentive design	Specify minimum lamp performance and target market; Agree jointly with participating retailer / supplier methodology for quantification of incentive payments.	Develop appropriate promotion, campaign or interventions to achieve the targeted market lift impact. Indicate number and distribution of stores that serves the specified target market.	
Baseline development	Appoint credible, independent <i>Evaluator</i> to develop baseline and methodology for calculating additional sales	Share relevant data with respect to historic sales and trends with appointed <i>Evaluator</i> to inform the baseline development. Sign off on baseline once agreed. Agree methodology for calculating additional sales.	Retailer's auditors may be the appropriate interface for data, if the retailer prefers this approach. The baseline can be defined to indicate monthly sales figures to allow more regular incentive payments.
Incentive payments	Pay the agreed lift incentive payments for additional A-lamps sales. Incentive payments can be done on a monthly basis, as soon as additional sales numbers are confirmed.	Ensure the incentive is discontinued when the full incentive budget is spent i.e. cap the number of lamps sold at the discount price.	The speed of processing incentive payments will depend on the availability of data to confirm additional sales.
Measurement and evaluation	Use global data set to report, inform design of future initiatives to promote LEDs in this or other countries.	Share relevant data with respect to LED A-lamp sales with appointed <i>Evaluator</i> to inform the calculation of incentive payments. Sign off on additional sales numbers once agreed to initiate incentive payments.	May also M&E against non-participating stores.
Market research (separate contract, but for noting)	The UNDP/DOE want to commission a quantitative market research in stores through short instore surveys with customers to run parallel with the promotion.	Facilitate / host market researchers at retail premises where the promotion is being run as well as non-participating outlets if necessary (e.g. if needed as control group).	Note that the actual market research will be a separate contract, but researchers will have to be accommodated in the store during the period of the promotion.
Lamp sourcing	Provide specifications for qualifying "promotion" lamps	Communicate specifications to lamp manufacturers / suppliers (refer Appendix A).	
Quality control for lamps	Support any discussions with lamp supplier as needed. Support visual verification of lamp shipment against specifications. Random selection and submission of lamps for testing. Registering non-compliant suppliers/manufacturers on website and database.	Specify MEPS to supplier / manufacturers to ensure delivery of compliant lamps and establish an appropriate recourse for non-compliance. Verify, based on packaging and markings, that lamps comply with the stated specification. Accept returns of failed lamps under the normal warranty conditions.	
Programme administration and reporting	Agreements and contracting with retail partners. Processing of payments to retailers. Overall project administration and reporting on the lessons learned. Develop recommendations for a national rollout.	Report monthly sales of lamps. Provide input into recommendations for a national roll out, lessons learned and experience of the incentive programme (data will be collected through short interviews with identified individuals)	Please indicate any additional reporting parameters possible i.e. whether sales can be provided per store, relative to conventional lamps sold, relative to historic sales volumes, etc.)
Communication (marketing and advertising)	Will support by including on Government websites (e.g. savingenergy.org.za), press releases, media events, etc. The use of government energy efficiency branding, logos and material are available to promote the programme but, is not compulsory.	May use any communication, marketing and awareness deemed necessary to achieve targeted additional sales.	The use of UNDP and government branding and logos is required and must be in accordance with guidelines

Request for Proposals

Interested partners are

1. Required to register their intention to submit a proposal by sending an email to procurement.enquiries.za@undp.org on or before 20 June 2018
2. Attend a compulsory briefing session on 22 June 2018, venue details will be forwarded on registration (previous point)
3. Submit a proposal indicating their interest to partner with the DoE for a Gauteng-based LED market-lift campaign as described in this TOR.

The proposal must include the proposed costs for delivering the following:

1. Incentive payment required for every additional qualifying (refer Appendix A) lamp sold i.e.: **Rand per lamp**
2. Costs (if any) for hosting / facilitating the parallel in store market research

Language:

- English

Evaluation Criteria

The technical evaluation (weighted at 70%)

Evaluation Criteria	Rating	Weighting
Quality of the marketing plan / strategy	<ul style="list-style-type: none">• Plan submitted (1-10)• Plan shows clear alignment with / relevance to target market (11-20)• Plan shows clear alignment with / relevance to target market and draws on a diverse set of tools to incentivize sales (21-30)	30
Market data	<ul style="list-style-type: none">• Limited certainty regarding baselines sales (1-10)• Reasonably accurate certainty regarding baseline sales and market intelligence (10-15)• Highly detailed and verifiable market data (16-20)	20
Access to target market	<ul style="list-style-type: none">• Outlet stores (up to 5) are within geographical area and accessed by target market (1-10)• Outlet stores (>5) are within geographical area and accessed by target market (11-15)• Outlet stores (>10) are within geographical area and accessed by target market (16-20)	20
Number of additional lamps targeted	<ul style="list-style-type: none">• <100,000 (1-5)• 100 000 to 149,999 (6-10)• 150,000 to 199,999 (11-15)• 200,000 to 299,999 (16-20)• 300,000 to 349,999 (21-25)• 350,000+ (26-30)	30

Financial evaluation (weighted at 30%)

Evaluation Criteria	Rating	Weighting
Price per additional lamp sold	R/Lamp of proposal	30

Selection will be based on a combined scoring method, where the technical proposal (Technical proposal) will be weighted a maximum of 70%, and combined with the price offer (Financial proposal) which will be weighted a maximum of 30%.

Applicants are required to register their intention by sending an email to procurement.enquiries.za@undp.org on or before **20 June 2018**. Upon registering their intention, applicants will be invited to attend a mandatory briefing session on **22 June 2018** at a venue to be informed on registration. After the briefing sessions, applicants are required to submit their proposal to procurement.za@undp.org on or before 8 July 2018 with the subject line: **Job Code Title and Reference Number**.

NB Please take note of the different email addresses to be used for 1. registration of intention and 2. submission of proposal

Appendix A: Requirements for self-ballasted LED A-lamps under incentive programme

Lamps qualifying for the market lift incentive are required to meet the energy efficiency, functional performance and product information requirements specified below.

Test reports must be made available demonstrating compliance (or performance above the stated requirement) for each of the stated parameters. It is expected that these should be standard photometry and/or other test reports, not requiring additional testing be done for this initiative i.e. existing test results that demonstrates compliance or superior performance can be used as supporting evidence.

Participating products will be subject to sampling and independent testing to confirm stated compliance / performance claims.

Energy efficiency requirement

Ref #	Metric	Requirements										
1	Lamp efficiency	Omnidirectional ³ Min 90 lm/W Directional 80 lm/W										
2a	PF (power factor)	Omnidirectional with < 10W Min 0.8 >10W Min 0.9										
2b	Alternatively , Fundamental Power Factor (Also called Displacement Factor or Cos (φ ₁))	<table><tr><th>Rated Input Power P in W</th><th>Fundamental Power Factor</th></tr><tr><td>P ≤ 2W</td><td>Not applicable</td></tr><tr><td>2W < P ≤ 5W</td><td>≥ 0.4</td></tr><tr><td>5W < P ≤ 25W</td><td>≥ 0.7</td></tr><tr><td>P > 25W</td><td>≥ 0.9</td></tr></table>	Rated Input Power P in W	Fundamental Power Factor	P ≤ 2W	Not applicable	2W < P ≤ 5W	≥ 0.4	5W < P ≤ 25W	≥ 0.7	P > 25W	≥ 0.9
Rated Input Power P in W	Fundamental Power Factor											
P ≤ 2W	Not applicable											
2W < P ≤ 5W	≥ 0.4											
5W < P ≤ 25W	≥ 0.7											
P > 25W	≥ 0.9											

Functional requirements

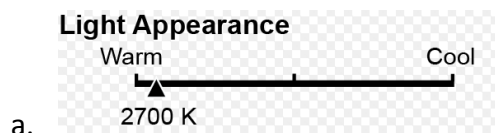
Ref #	Parameter	Functional requirements
3	Colour Rendering Index (CRI)	$R_a \geq 80$ or if reported as CRI for all 15 colours ≥ 70
4	1000 hour early failure test	LED lamps must operate for 150 minutes on and 30 minutes off for 400 cycles at ambient conditions.
5	Lumen maintenance (omnidirectional and directional lamps)	At 6000h $> 86.70\%$ of initial (based on $L_{70} > 15,000h$)
6	EMC emissions	Compliance with SANS 215 or CISPR15
7	EMC immunity standard	Compliance with SANS 61547 or IEC 61547
8	Warranty	<15000hrs – 2yrs >15000hrs – 3yrs (based on 3 hrs of use/day)
9	RoHS	Compliant with RoHS and shall not contain any Mercury (0.0 mg Mercury)

³ Concessions are proposed for directional lamps, narrow beam angle, **high CRI** and $\leq 3000K$ colour temperature

Product information requirements

The following information shall be clearly and prominently indicated on the packaging and in all other forms of product information:

- i. Rated power in Watts
- ii. Rated initial luminous flux in lumens
- iii. Rated efficacy in lumens per Watt (lm/W)
- iv. Rated lifetime claim in hours
- v. Rated correlated colour temperature (CCT) in Kelvin (K) combined with a sliding scale:



- vi. Statement on Dimmability – clearly state whether dimmable or not dimmable. If yes, then information on dimmer compatibility, or web link to this information.

Manufacturers are not required to provide an incandescent equivalency claim (i.e. "This lamp is as bright as a 60W incandescent" or "10W = 60W". However, if they do, then the equivalency shall be based on the table below which depicts the minimum initial luminous flux that is required to claim a specific incandescent lamp wattage equivalency:

Table of incandescent wattage equivalencies for LED lamps

Incandescent Wattage Equivalency [W]	Minimum Initial Luminous Flux [lm]	
	Omni-directional Lamps	Directional Lamps
15	150	130
25	250	210
40	500	430
60	800	680
75	1000	850
100	1500	1300
150	2500	2200
200	3500	3000

Note: The listed incandescent wattage equivalencies may be interpolated (e.g. 50 Watts) and extrapolated (e.g. 7 Watts) using the values in the given table