

LED's kick off in South Africa

2010



LED Lighting retrofit program

1st programmatic CDM program in the world using LED lighting technology kicks off in South Africa

LED lighting technology has come to maturity and is now able to deliver a similar or better light experience whilst offering electricity savings of up to 90% compared to incandescent lights and 50% compared to CFLs.

With South Africa facing an immediate energy crisis, Demand Side Management projects are essential for safeguarding against blackouts and protecting the nation's economy.

This first programmatic CDM project in the world using LED lighting consists of the massive retrofit of inefficient lighting with LED in housing, street lights, hotels and office buildings and Lemnis Lighting's LED wide range of products with high efficiency and the mesopic light concept for outdoor will be used.

Co-benefits of the project are the introduction of 10,000 off-grid solar lights in rural areas. Although carbon emissions from kerosene lights are saved, they have not been included in the carbon program.

Another important part of the project is the launch of an education and awareness program called "Glowball against Global Warming".

To enhance livelihood, balls are distributed and each ball means that one child will be educated in becoming a "Climate Hero", learning how to live a sustainable life and save energy.



Project Objectives

- Large scale refitting of inefficient traditional lights with highly efficient LED lights, reducing carbon emissions with 5.6 million tonnes of CO₂e and achieving up to 90% energy savings
- Demonstrate the use of clean technology in demand side programs to significantly reduce electricity usage
- Support local community by providing education program on "how to become a climate hero!", solar LED lights for rural areas and longer term employment opportunities through local manufacturing and R&D
- Create increased awareness of sustainable development in South Africa



Preferred supplier



World Bank: Lighting Africa 2009 Award



Technology Pioneer 2009 Award



Largest introduction of LED in the world 2009



Top 10 most innovative consumer goods companies 2010



Left : regular sodium lights

Right : LED lights with 90% energy reduction

Technical Information

Indoor LED Lights

Usage: 6W
 Lifetime: 35,000 hours
 Efficiency: >65 lm/W, dimmable
 Colour Rendering Index: 87
 ROHS: compliant, no mercury
 Recyclable: >90%
 Lifetime CO₂e savings: >1.8 tonnes

The indoor LED lights generate up to 90% of electricity savings compared to incandescent light bulbs and up to 50% compared to CFLs.

In terms of lifetime, the LED lights last 35x longer than incandescent light bulbs and up to 6x longer than CFLs.

The LED light bulbs are also more environmentally friendly as they contain no mercury and are to a large extent recyclable at the end of their very long lifetime.

In 2009 Lemnis Lighting distributed Pharox 300 LED bulbs to 2.5 million Dutch households. As a result of this, LED light bulbs became a household phenomenon in the Netherlands – something that can also be achieved in South Africa.

Outdoor LED Lights

Usage: 16 - 56W
 Lifetime: 80,000 hours
 S/P Ratio: >2.0
 IP: 66
 ROHS: compliant, no mercury
 Recyclable: >90%
 Lifetime CO₂e savings: >2.8 tonnes

The outdoor LED lights save 50-90% in electricity compared to traditional sodium street lights.

Due to the long lifetime of the LEDs, the Pharox LED street lights have virtually no maintenance costs, generating an additional financial benefit to customers.

“LED’s Kick Off” Impact

By distributing ~3 million of the Pharox 300 light bulbs, ~240,000 MWh in electricity can be saved on an annual basis – equivalent to a 60 MW coal-fired power plant.

The project will save an estimated 5.6 million tons CO₂e and will start generating CERs from July 2010. Of the carbon credits generated, up to 33% of these, with a cumulative maximum of 900,000 tonnes CO₂e can be ceded to contribute towards offsetting the domestic carbon footprint as result of e.g. the WC 2010.

Features

1. Emission reductions

The proposed project reduces 5.6 million tonnes of CO₂e during its lifetime

2. Electricity reductions

Achieving a reduction of up to 90% in electricity consumption, the project can significantly contribute to the demand side management and climate change objectives of the South African government – on an annual basis ~240,000 MWh in electricity is saved

3. Recycling benefits

The project’s design includes a recycling scheme for all the light bulbs that are being changed to LED light bulbs – in case of CFLs this means the mercury content will not end up on the landfill

4. Long term education

By incorporating the “how to become a climate hero!” educational programme, the project will ensure a lasting legacy on which future generations can build

5. Positive rural impact

The creation of skilled jobs in the LED manufacturing industry , as well as, fitment and monitoring.

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