



South Africa's first sun-powered robots unveiled.

Cape Town, 01/10/2007 – SOUTH AFRICA's first solar powered traffic light intersection has been unveiled in Cape Town, and the development could spell the end of traffic chaos caused by power cut stricken robots.

The pilot site - an eight-robot intersection on Plantation Road, Montagu's Gift, Cape Town - was retrofitted with energy efficient LED lights, a monitoring unit, a solar panel and batteries as part of a three-month assessment period.

The intersection was successfully taken off Eskom's power supply at a ceremonial solar switch on yesterday (Monday, October 1).

The aim of the site is to assess whether sun power can keep the robots working normally at all times, and see if the controlling technology can successfully handle transitions between Eskom outages and solar power.

Besides the potential benefits for motorists, the robots are also more environmentally friendly, because they rely on renewable solar energy, and do not use power generated by burning fossil fuels like coal.

In the future, the robots could even add excess energy to the National Grid.

The four square metre solar panel - mounted on a lamppost height pole to prevent theft – can generate 500W.

Currently an average traffic intersection uses about the same amount of power in a month as an average 3 bed roomed house. Based on this, it is estimated that Cape Town's robots draw the same amount of power as 1,200 homes.

This means potential energy savings in the future would be sizeable if all robots were retrofitted with energy efficient LED clusters and solar panels.

Barry Bredenkamp, Operations Manager of the National Energy Efficiency Agency, which has backed the project, said the pilot site was a very welcome step along the path to an energy efficient South Africa.

"This is a very exciting initiative, both in terms of relieving traffic congestion and its energy saving benefits," he commented.

He added that if the practical results matched the theory, solar powered traffic lights could be rolled out across the country and perhaps even taken internationally.

"The main aim is to keep the robot working normally during power cuts, and determine to what extent traffic intersections can be run without Eskom power – if it's a success the possibilities for roll out are huge,"





said Bredenkamp.

He added that energy generated at the intersection could be linked to a carbon-trading scheme set up under the Kyoto Protocol.

Eskom funded the project in its exploration of ways to reduce demand on the National Grid, which is under pressure to keep supply ahead of demand – especially in the run up to the 2010 Soccer World Cup.

Stefan Hanel, Director & Engineer from MagCode SA, the Cape Town-based company implementing the project, said depending on weather conditions and use, the batteries could last three days without charging.

“We won’t know for sure until the data is in, but the batteries should be able to power the robots for about three cloudy days.

He said that the change from halogen bulbs to LED’s reduced the energy consumption from 75W per head, to about 10W.

“It’s not just about the solar panel – the intersection has been fitted with energy efficient LED heads to maximise the energy use” added Hanel.

MagCode SA has already built a mobile rig so it can demonstrate the system to other municipalities and local administrations interested in employing the technology.

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Notes:

The NEEA was formed from a directive from the Department of Minerals and Energy in 2006.

It was created as part of a broader strategy to reduce overall energy demand by 12 per cent by 2015.

The NEEA is a division within the Central Energy Fund – an organization set up to find the energy solutions that will meet the future needs of South Africa’s growing economy.

The overarching objectives of the NEEA are





- The prioritisation and recommendation of energy efficiency and DSM projects to be undertaken in the country.
- Identification and development of key strategies, to address the growing demand for energy in the country, including gas, electricity, liquid petroleum, etc.
- Stimulate areas neglected in terms of energy efficiency in the past, such as the transport sector.
- Develop and implement comprehensive annual 'Energy Efficiency and DSM' awareness campaigns, to assist the general public in making wise choices when purchasing energy-consuming equipment and appliances.
- Oversee the integration and co-ordination of training in energy efficiency currently undertaken by various stakeholders in the country. The Agency will also facilitate skills transfer, capacity building and the creation of additional jobs in the field of energy conservation.
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- Co-operate with persons, associations and institutions undertaking energy efficiency programmes in other countries, to ensure that international 'best practices' are adopted and applied in South Africa.

