

# The Status of Energy Efficiency in the Housing Sector of South Africa

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Integrated Demand Side Management

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Powering your world



- Department within Eskom's Customer Services Division
- IDM is dedicated to ensuring short-term security of electricity supply through implementation of various initiatives aimed at **optimizing energy**.
- The Initiatives are NERSA funded through the MYPD approvals.
- Key focus
  - Energy Efficiency Initiatives
  - Load Management Initiatives technologies,
  - Consumer Behavior and awareness Initiatives

## Energy Efficiency initiatives

- CFL Mas Rollout
- Residential Mass Rollout (Technology Basket)
- Residential Rebates Programmes

## Load Management Initiatives

- Residential Load Management (RLM) Programme
- Awareness Programmes

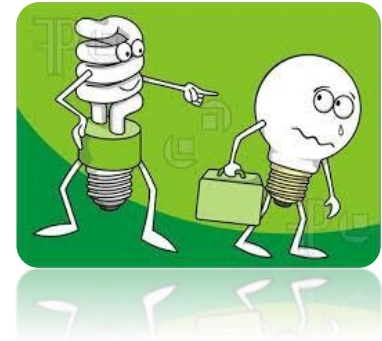
# Why Residential?

Residents: greatest contributors to peak time loads

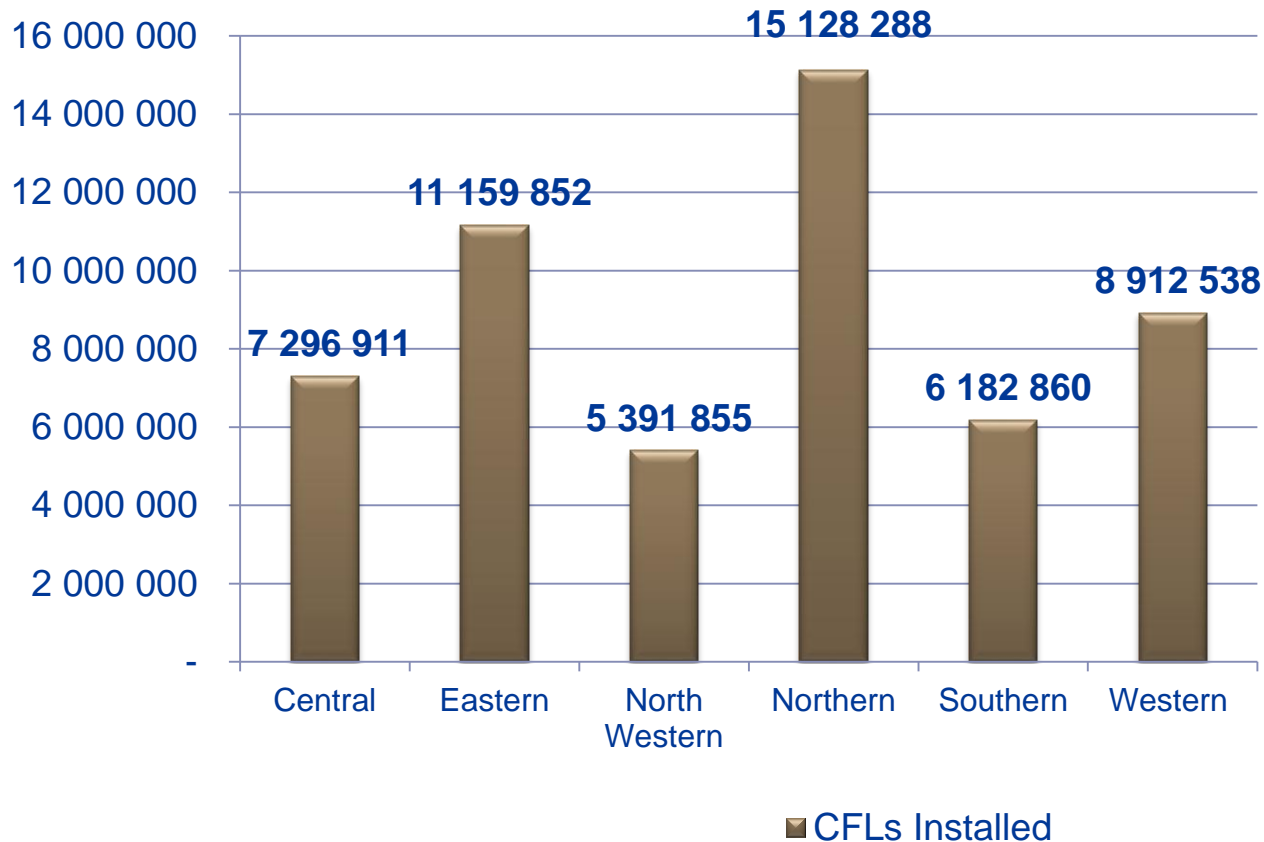
Aim to optimize energy usage



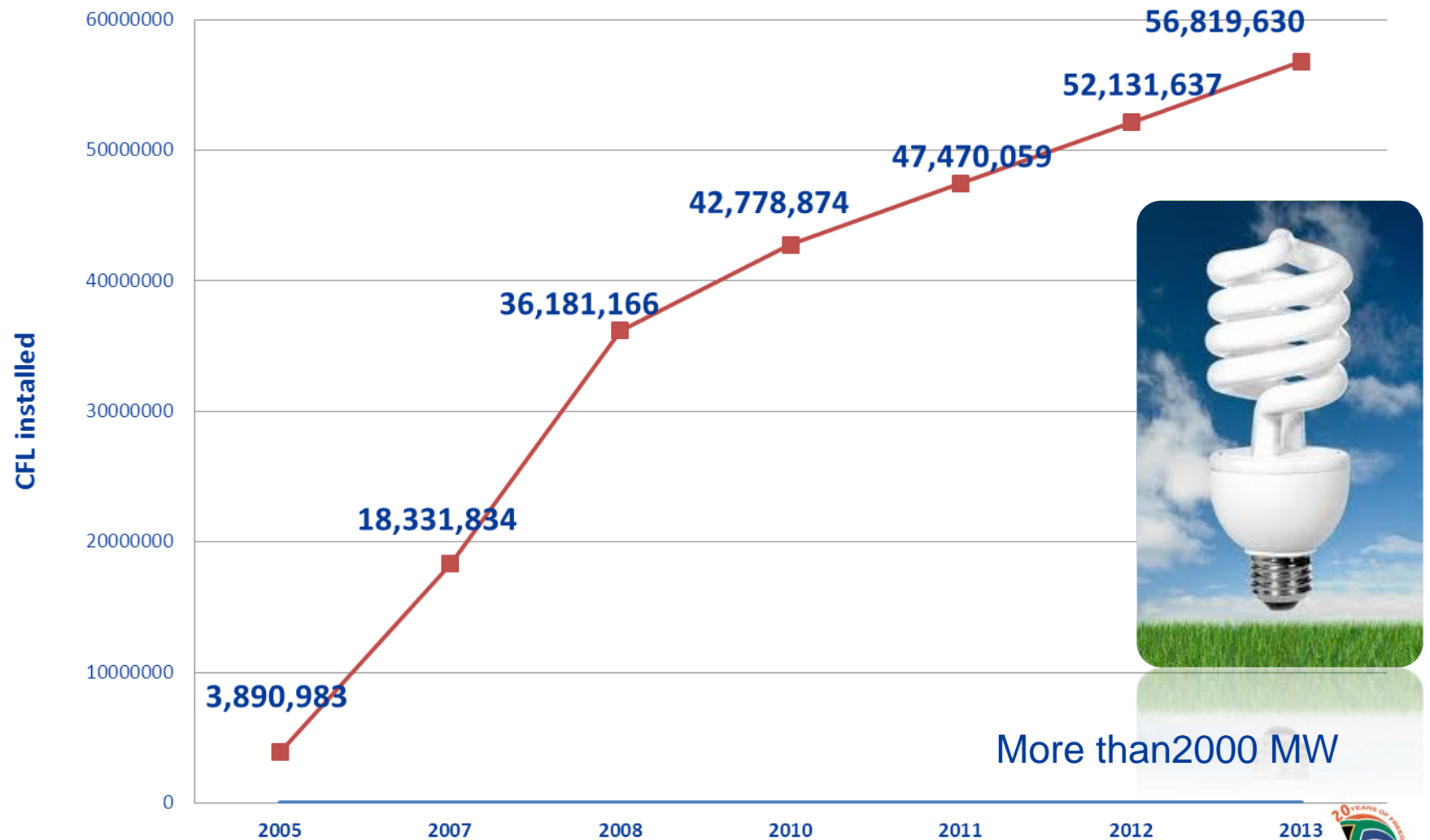
- Objective: Replace Incandescent with CFLs
- The programme is entirely on tender bases
- Programme consist of:
  - Supply /procurement of CFLs
  - PM Companies per Region (Operating Units)
  - Multiple Installation Teams per Region ( Operating Units)
  - Crushing and Disposal (both Incandescent and CFLs)
- Preference is given to small companies based on BBBEE level status.
- Target areas: Predominantly lower LSM and few higher LSM
- Temporary jobs creation in communities where the rollout is targeted.



## CFLs Installed

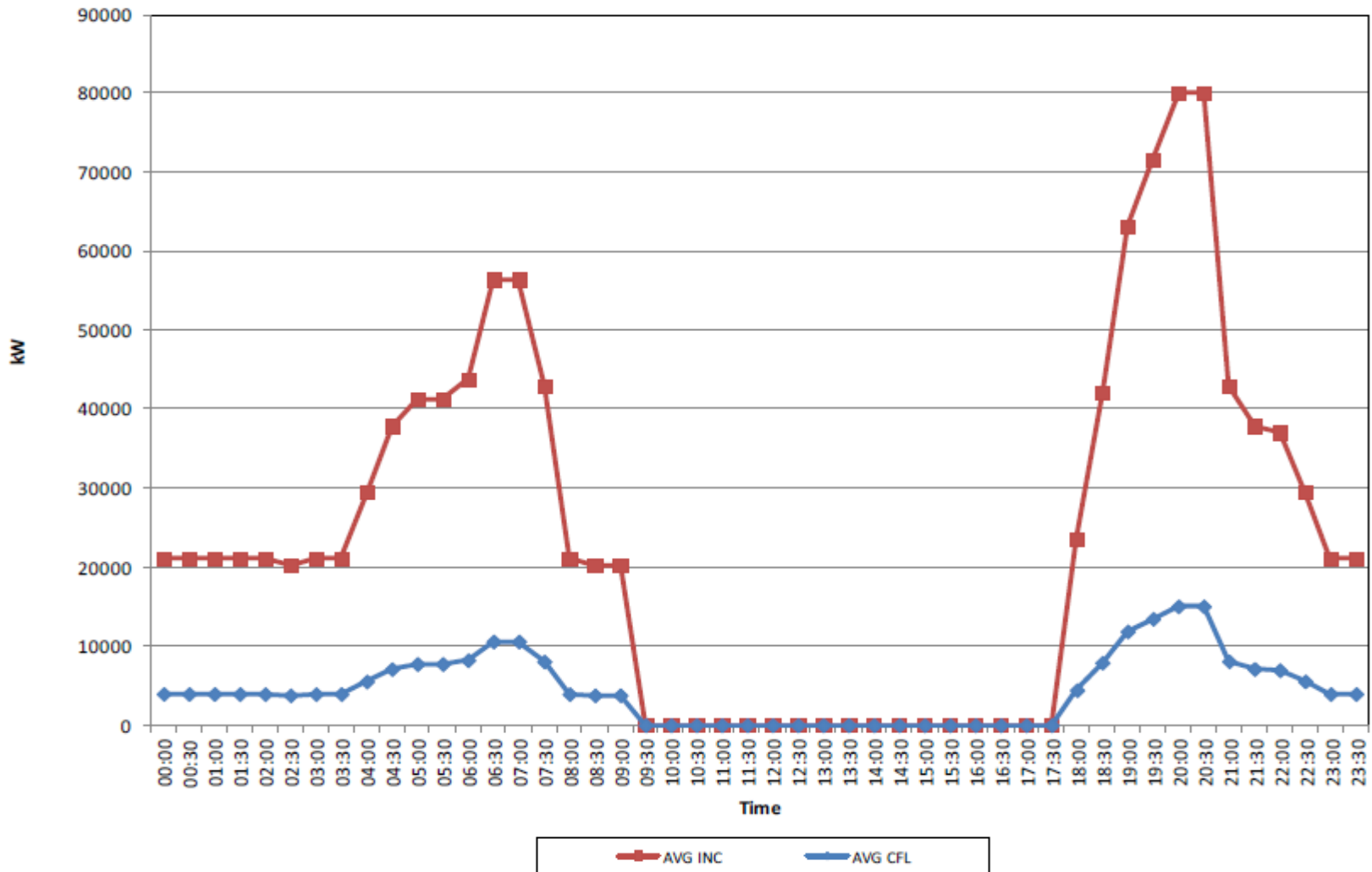


# CFL Mass Rollout



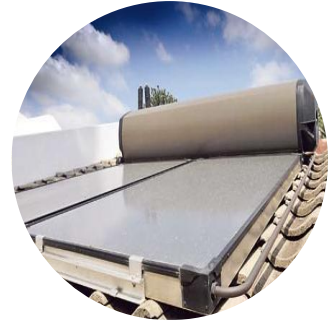
# Typical Incandescent to CFL Profiles

Weekday Operational Demand Profile (Pre/Post-Implementation)



## Solar Water Heaters Rebate

- Installed Over 380 000 SWHs installed in 7 years
- Low Pressure (incl. Load Reduction programme) and High Pressure
- Target Market: Low and High LSMs



## Residential Heat Pump Rebate

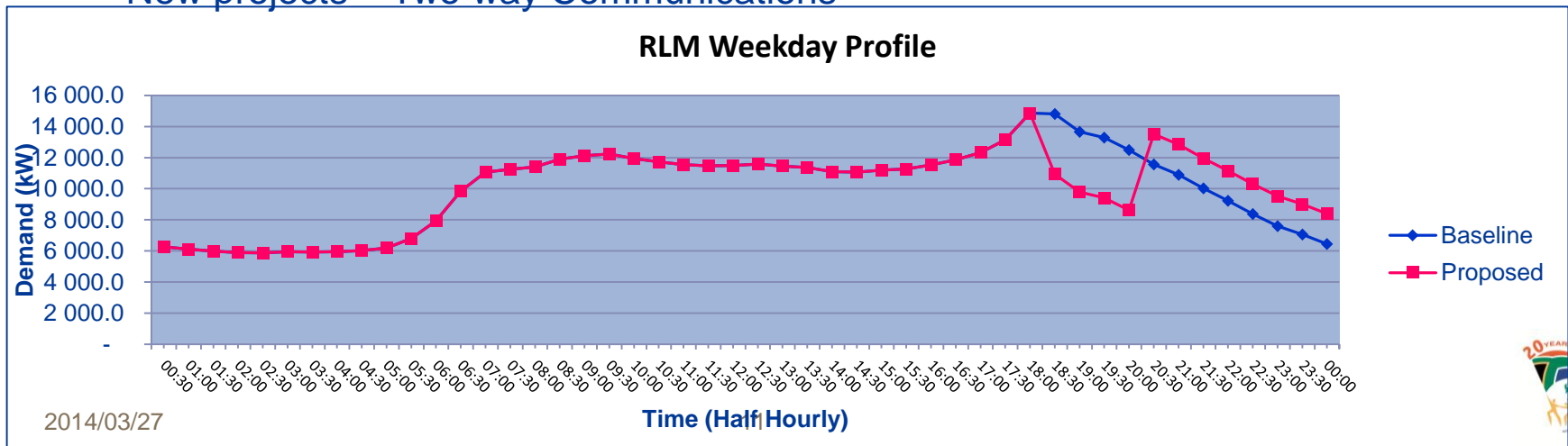
- Installed over 17 000 Residential Heat Pumps in 3 years
- Both Integrated and Split Systems
- Target Market: High LSM

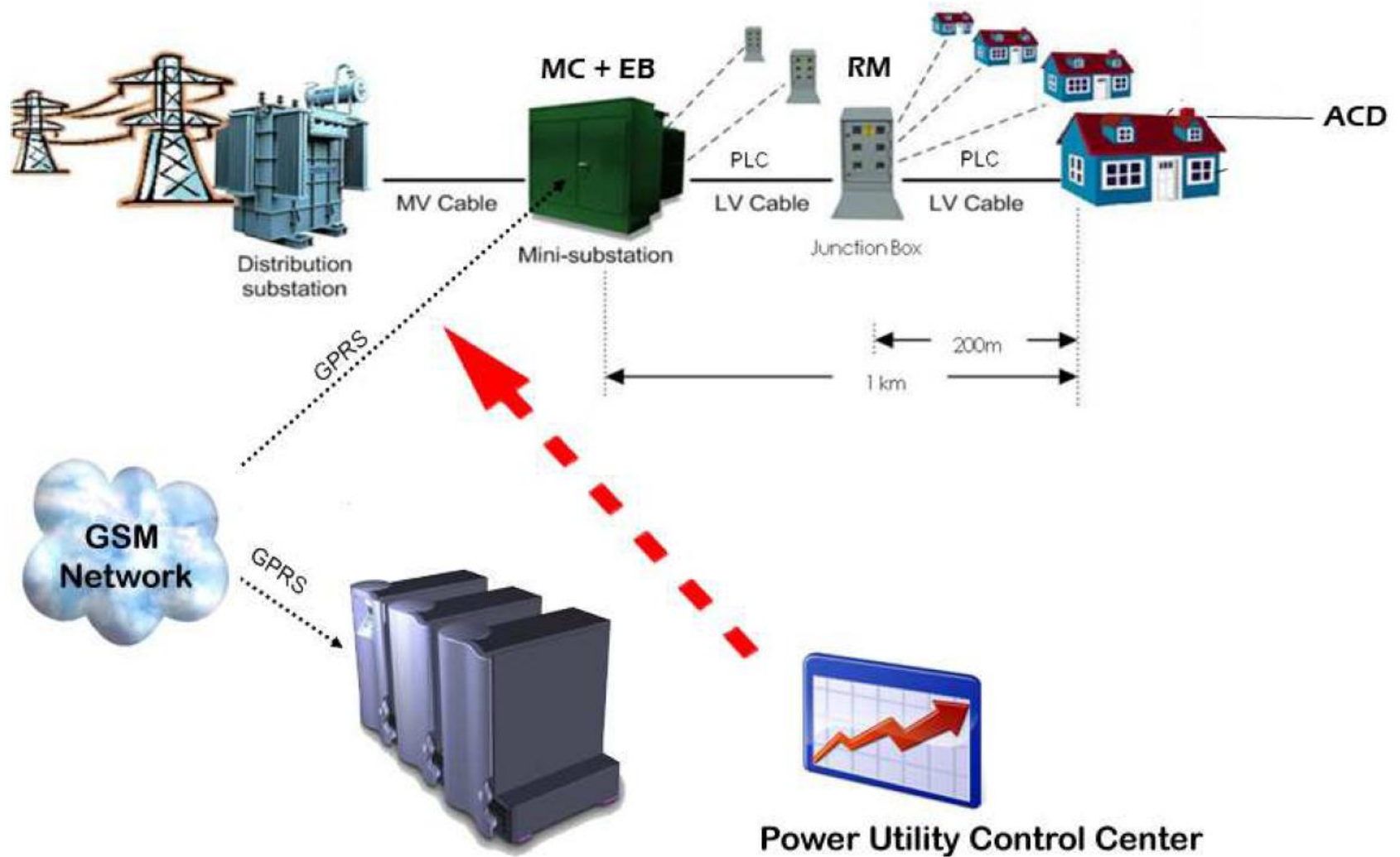


- Target Market: High LSM
- Phase 1 and 2 completed Phase 3 Postponed.
- Turn-Key Implementation on a tender process
- Basket Technology Offer
  - CFLs
  - Geyser and swimming pool Timer
  - Shower heat
  - LED downlighter
  - Geyser Blanket (optional)



- ADMD – After Diversity Maximum Demand, Calculated or Assumed
- Pure Load Management means Neutrality – Area(energy) under the graph
- Control of come back load
- Types of projects
  - Extension projects – One way Communications
  - New projects – Two way Communications





# Residential Load Management Implementation

## 2005-2006

Worcester, Ulundi, Mmbatho, Buffalo City, Potchefstroom, Klerksdorp, Lukhanji, Mthatha, Amahlathi, Port Alfred, NMB (Port Elizabeth), Cradock, Randfontein, Table View, Kraaifontein, Kuilsrivier

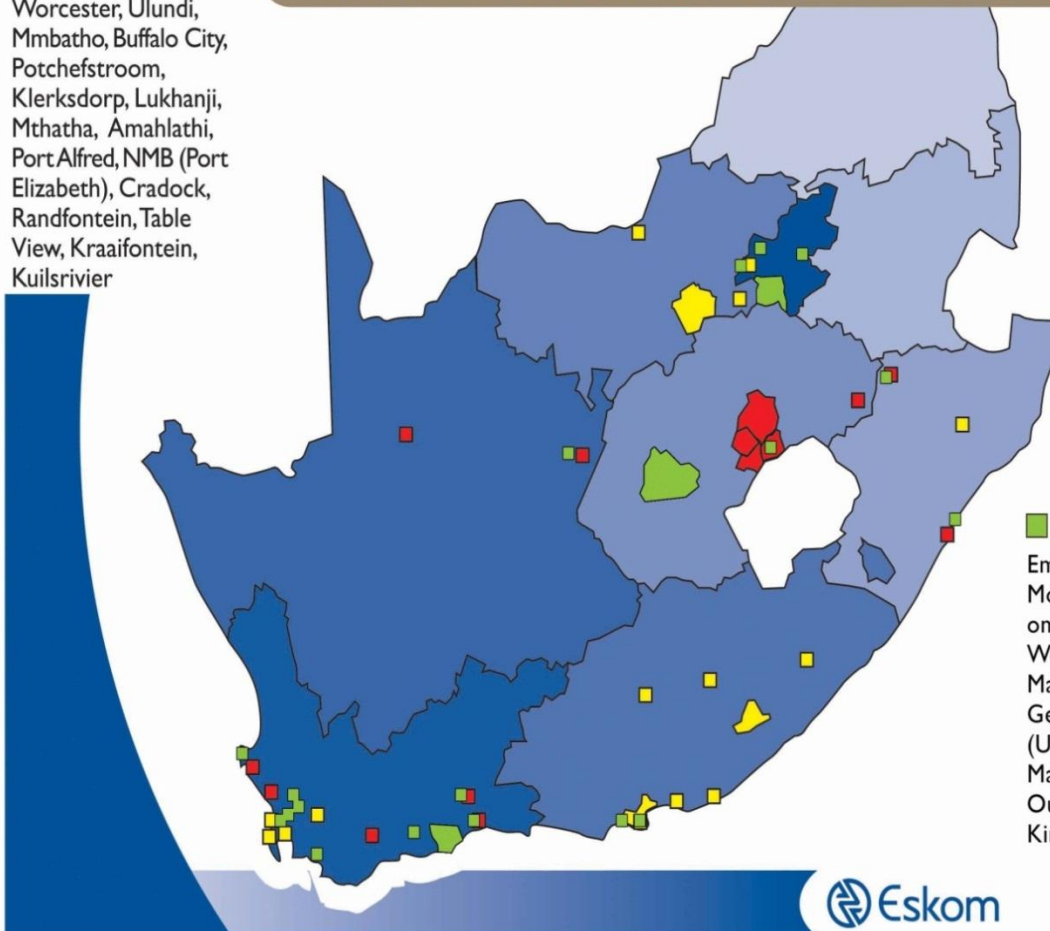
## Areas where switches have been installed

## 2007

Setsoto (Ficksburg, Clocolan, Senekal, Marquard), George, Swellendam, Malmesbury, Khara Hais (Upington), Oudtshoorn, KwaDukuza (Ballito), Maluti-A-Phofung (Harrismith, Phuthaditjhaba), Sol Plaatje (Kimberley), Saldanha Bay (Saldanha, Vredenburg and Langebaan), Newcastle

## 2008-2012

Emfuleni (Vanderbijlpark en Vereeniging), Mosselbaai, Overstrand (Hermanus en omgewing), Drakenstein (Paarl en Wellington), Ekurhuleni (Benoni), Nelson Mandela Bay (Port Elizabeth), Stellenbosch, George, Hessequa (Riversdal), Khara Hais (Upington), KwaDukuza (Ballito), Malmesbury, Maluti (Ficksburg), Newcastle, Oudtshoorn, Saldanha, Randfontein, Kimberley, Bloemfontein



- Power Alert, Beat the Peak and winter campaigns



## How you can help to keep the lights on this winter ... especially between 5pm and 9pm weekdays

South Africa's homes – from flats and clusters to stand-alone houses and residential estates – demand 17% of the electricity used in our country. But on weekdays, between 5pm and 9pm, this demand increases and peaks at 35%, a huge jump that puts severe strain on the power supply.

### Why does this happen?

We arrive home from work around 5pm, Monday to Friday:

The first thing we do is switch on the lights, television, our electrical space heaters, followed by the oven, the microwave and the washing machine or dishwasher. We also run hot water in the kitchen and take a bath or shower – with the geyser tucked away in the ceiling working hard to heat the water.

Millions of us follow this evening routine at the same time, which means South Africa's households use more than one third of the electricity consumed in the country between 5pm and 9pm, on weekdays.

As the demand increases, Eskom does all it can including running some emergency power stations during the day, to balance supply and demand. This winter we need to continue with power station maintenance and the system will be tighter during the peak period from 5pm to 9pm.

### What can you do to help keep the lights on this winter?

Three simple things:

1. Switch off your electrical element geyser between 5pm and 9pm; this appliance uses the most electricity of all in the home, and can account for up to 50% on your electricity bill.
2. Don't switch on your space heater between 5pm and 9pm. This appliance is energy-intensive and can account for up to 16% on your monthly electricity bill, instead, dress warmly, switch on a gas heater, and use a hot water bottle and blankets to keep warm.
3. Switch off your pool pump between 5pm and 9pm; this appliance uses the second most electricity of all in the home and can account for up to 11% on your electricity bill.

**Let's switch off together ... and keep South Africa powered up this winter**

Visit [www.eskom.co.za/dm](http://www.eskom.co.za/dm) for detailed information on saving tips for winter and Eskom's energy efficiency product rebates.

# 5pm to 9pm switch off campaign: Phase 2 - Why



**Switch off your geyser  
between 5pm and 9pm.  
*Here's why:***

The reason we ask you to switch off your geyser between 5pm and 9pm, is that the country uses more electricity during this time and supply is under severe pressure. Switching off your geyser helps free up power for other things and relieves the pressure on the grid.

Here's an interesting fact, the huge demand for energy during the evening between 5pm and 9pm is the equivalent of one power station. There is an estimated 5,4 million electric geysers in homes across South Africa.

Our combined contribution makes a significant difference. Switch off your geyser every day between 5pm and 9pm, and help us beat the peak to keep South Africa powered up.

For more information visit [www.eskom.co.za/idm](http://www.eskom.co.za/idm)

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# 5pm to 9pm switch off campaign: Phase 1: Introduce geyser and pool pump characters



The evening peak period between 5pm and 9pm, is when a lot of people are home after work, and the power supply is at its lowest. A geyser can consume up to 39% of household power, whereas a pool pump can consume up to 11%. For more information please visit [www.eskom.co.za/idm](http://www.eskom.co.za/idm)



The evening peak period between 5pm and 9pm, is when a lot of people are home after a day at work. During this time people cook, play video games, watch TV and take baths. All of this leads to a large demand on our limited power supply. A geyser can consume up to 39% of household power, whereas a pool pump can use up to 11%. Please help us reduce the pressure on the national grid by switching off your geyser and pool pump during peak periods. For more information please visit [www.eskom.co.za/idm](http://www.eskom.co.za/idm)

# Lets Beat The Peak!!!

# Thank you

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