Energy Losses Management Programme

Presentation to AMEU

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Defining Energy Losses

• Energy losses include technical energy losses and non-technical energy losses
• Exclude non-payment or debt management
Problem Statement

Total Eskom Distribution Energy Losses Trend (Jan 02 – Jul 06)

- Utilities globally battling with energy losses
- Costing billions of rands annually
- Developing countries are worst hit
- Eskom Distribution energy losses increased from 4% to roughly 6% between 2002 and 2005
- Eskom became increasingly worried about the increase
<table>
<thead>
<tr>
<th>Reasons for ELP</th>
<th>Reason</th>
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<tbody>
<tr>
<td><strong>Theft</strong></td>
<td>Illegal connections and revenue lost due to theft of electricity is a public domain risk for Eskom</td>
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<td><strong>Regulatory Management</strong></td>
<td>In light of Eskom’s current tariff hikes over the next few years, the public (and NERSA) will potentially criticise Eskom for rate hikes despite energy losses. Eskom would have to demonstrate its serious interventions to address the problem</td>
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<td><strong>Reputation Risk</strong></td>
<td>Eskom need to show all reasonable attempts to get the SA public to be aware, informed and encouraged to be compliant by addressing behaviour</td>
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<td><strong>Revenue Recovery</strong></td>
<td>The considerable revenue loss suffered, necessitates Eskom to explore and employ all possible avenues to recover and prevent these losses</td>
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<td><strong>Base Load</strong></td>
<td>Electricity theft impacts demand (load) on the grid. LPUs, SPUs and PPUs who are illegally connected, tampering with metres, etc, will have no incentive whatsoever to use electricity wisely (efficiently)</td>
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Challenge

Distribution experienced higher than expected energy losses over the past few years

Action

Initiated the Energy Losses Management Programme

Objective

- Arrest negative trend
- Improve current energy loss management practices
- Introduce new strategies
- Establish acceptable level at which losses should be managed as an inherent risk of the business
- Ensure operational sustainability
**Distribution Energy Losses Management Strategy**

**Strategic Objective**

1. **Arrest upward energy losses trend**
   - Audit, measure and fix customer installations

2. **Reduce trend to acceptable level**
   - Ring fence electrical networks to balance energy delivered

3. **Ensure sustainability at acceptable level of energy losses**
   - Implement tested technologies

**Work Streams**

1. Audit, measure and fix customer installations
2. Ring fence electrical networks to balance energy delivered
3. Implement tested technologies
4. Ensure sustainability

**Approach**

1. Use business intelligence to identify high loss customers
   - Identify network based boundaries
   - Install metering to measure energy flows
   - Audit and clean data per measured area
   - Balance energy inflows and outflows to determine anomalies

2. Resource and prioritise customer audits
   - Investigate all possible options to manage & reduce energy losses
   - Pilot and test scalability of identified technologies
   - Implement and measure benefits of tested technologies

3. Co-ordinate customer audits
   - Determine business RACIs for Energy and Revenue losses management activities
   - Detailed analysis and identify gaps
   - Build capacity and competence
   - Measure results and adjust resource strategy accordingly

4. Measure results nationally

**Communicate and Educate Stakeholders**
## ELP Scorecard – Strategic View 2010/11

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<td><strong>Input KPI's</strong></td>
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<tr>
<td>Targeted Field Audits</td>
<td>LPU Low / No Consumption, Terminated PODs Advancing, Service Points Without Meters</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
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<td></td>
<td>SPU Low / No Consumption, Terminated PODs Advancing, Service Points Without Meters</td>
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<td>PPU Low / No Consumption, Service Points Without Meters</td>
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<td></td>
<td>Unallocated PPU Meters</td>
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<td>General Methodology Based Audits</td>
<td>% Large Power Users Audited - LPU</td>
<td>60%</td>
<td>40%</td>
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<td></td>
<td>% LPU Fix Rate (Within 30 days)</td>
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<td>% Conventional Residential Audited- SPU</td>
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<td>% SPU Fix Rate (Within 60 days)</td>
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<td>% Prepaid Residential Audited - PPU</td>
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<td>% PPU Fix Rate (Within 60 days)</td>
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<tr>
<td><strong>Feeder Balancing</strong></td>
<td>% Stats Meters Installed at MV feeder level (New / Upgrade)</td>
<td>10%</td>
<td>20%</td>
<td>20%</td>
<td>15%</td>
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<td></td>
<td>% MV Feeders Balanced (FBM)</td>
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<td>Accuracy Improvement of Select FBM Feeders</td>
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<td>Number of Projects with Losses &gt;30% (EBM)</td>
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<td><strong>Output KPI's</strong></td>
<td>Energy Losses Measurement</td>
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<td></td>
<td>Total Losses</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
<td>45%</td>
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<td></td>
<td>EBM Combined</td>
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<td>Revenue KPI</td>
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<td>Revenue Recovery</td>
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What we achieved from inception-to-date

- **Arresting** the trend - achieved and exceeded in first year
- At end of the second year – the programme managed to **reduce losses from 6% to below 5.5%**
- **Number** of meter installation **audits increased significantly** - compared to previous years
- Development of **standardised audit methodology** and **process**
- Implemented **Quality Assurance (QA)** for customer meter audits
- **Recovered** more than **R 68 million** and prevented more than **R 130 million** from loss just in the past Financial Year 2009/10
- Developed a **comprehensive communication plan** and ready to launch
Rolling out a partnership campaign …

… Mobilising South Africans for legal power use

www-operationkhanyisa-co-za
“The world is a dangerous place to live, not because of people who are evil, but because of good people who don’t do anything about it.”

Albert Einstein
Deviant / criminal behaviour

- Theft of any kind is a contagious disorder.
- It is not the fear of being punished that deters people from doing wrong – it is the fear of being caught that is the primary deterrent factor. However, both aspects need to be in place to deal with crime.
- It’s the ‘good’ people who turn a blind eye and remain passive that contributes to a breeding ground/culture conducive for deviant behaviour.

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**Dishonest**
- 40% committing Crime (Green)

**Generally honest**
- 45% that can swing to either side of the scale

**Honest**
- 15% relatively honest

Critical swing needed in order to combat crime and losses
What is social marketing and how can it assist?

- Social Marketing is the application of commercial and innovative **marketing technologies** in **behaviour-change programmes**, with the aim of **influencing the voluntary behaviour** of target audiences for the **greater good** of the **individual** and **society**, whilst doing the **most good** for the **company/organisation**.

- Kotler & Standford found that: “Social Marketing is one of the surest ways to have a measurable impact on a social issue, because it actually increases the number of people who act in a way that benefit society.
ELP Communications Strategy

Objective: Behaviour change towards legal electricity usage

Achieved by: Social Marketing Campaign

Pro-active Integrity Based Program
- Values, Self-regulation
- Integrity Standard
- Leadership visible
- Awareness, Info, feedback
- Unity, Commitment
- Peers, value drivers
- Partnerships, mobilisation

A holistic approach based on a two-pillar strategy

Compliance Based Program
- Code of Conduct
- Systems/Controls
- Audits
- Info management
- Detection
- Law Enforcement
- Policies
- Reporting
To influence the voluntary behaviour of SA consumers to be legal electricity users by:

- Reducing the number of illegal electricity consumers
- Mobilising South Africans to report and prevent illegal connections
- Building partnerships to deal with illegal electricity consumption

**Objective**

**Tool**

Through-the-line\(^1\) campaign that supports, publicises and drives behaviour-change utilising:

- Community mobilisation: building compliant behaviour through norms, values, partnerships, etc
- Amnesty & Reporting line campaign
- Partnership campaign with Organised business, Civil society & Communities
- Compliance campaign, Eskom Audit roll-out, Trend analysis
- Communication: Publicising all the above

**Approach**

- Focus on both LPUs/ Large SPUs and residential SPUs.
- Two integrated pillars: a Pro-active Integrity-based Program and a Compliance-based Program
- Show target audiences the impact & risk of illegal use of electricity
- Show target audiences the benefits of legal electricity usage
- Empower target audiences through partnerships, organised structures and mobilisation
- Tie this campaign in with broader safety and energy efficiency education
- Aligned with existing Eskom or National campaigns

**Benefits**

1. Reduce energy losses  
2. Improve safety  
3. Reduce non-payment  
4. Improve availability of supply

\(^1\) Through-the-line: Utilising both Above-the-line (National media such as TV, radio, national press) and Below-the-line (Community media, brochures, etc.) channels
References
DANGER GEVAAR INGOZI

ELECTRICITY THEFT WILL COST YOU MORE THAN YOUR JOB

Report electricity theft anonymously: 086 322 1111 (R1 per min). Tip-offs can also be made on www.crimsafesa.co.za

DANGER GEVAAR INGOZI

REPORT ELECTRICITY THEFT SMS YOUR DETAILED ANONYMOUS TIP-OFF TO CRIMELINE: 32211

Report electricity theft anonymously: 086 322 1111 (R1 per min). Tip-offs can also be made on www.crimsafesa.co.za
DANGER GEVAAR INGOZI
ELECTRICITY THEFT HURTS OUR BOTTOM LINE

DANGER GEVAAR INGOZI
ELECTRICITY THEFT HURTS SA'S FUTURE
REPORT ELECTRICITY THEFT
SMS YOUR TIP-OFF TO
32211
(YOUR ANONYMOUS CRIME TIP-OFF)

WARNING
LEGAL POWER USE IS THE WAY TO GO.
DVD with 8 themed 2" clips
Thank you

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