



# Energy Losses Management Programme



## Effectively Managing Eskom Distribution's Energy Losses

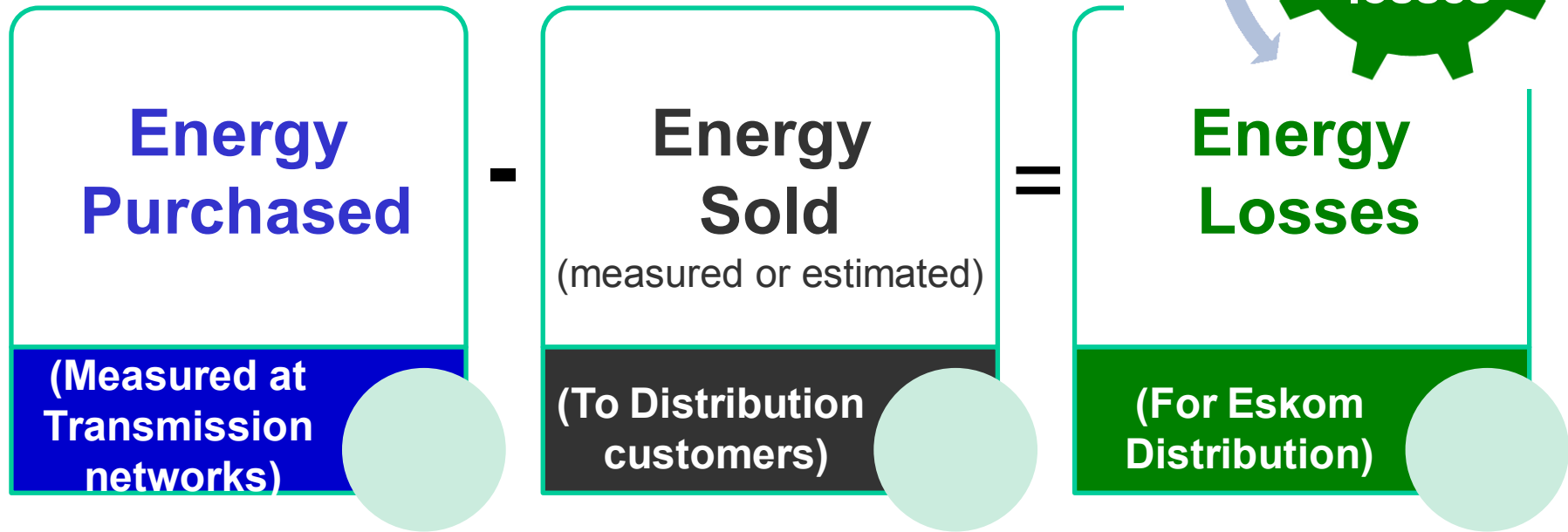
*Presentation to SARPA*

*16 July 2009*

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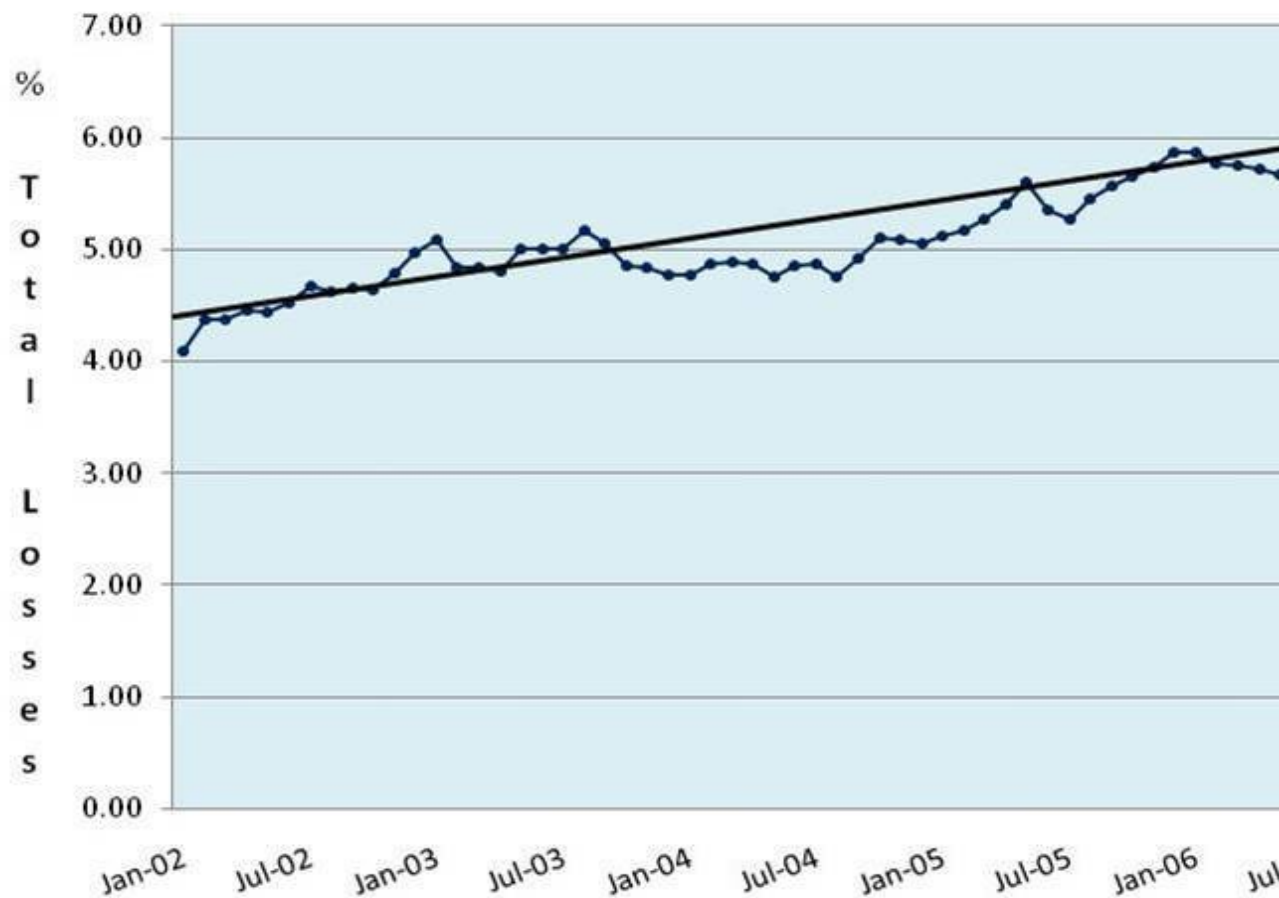
# Defining Energy Losses



- 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

# Energy Losses Management Programme (ELP) Addressing Eskom Distribution's Energy Losses

## Challenge

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

## Action

Initiated the Energy Losses Management Programme (ELP)

## Strategic Objectives

*Arrest* the upward energy losses trend

*Reduce* the trend to an acceptable level

Ensure *sustainability* at an acceptable level of energy losses

# Eskom Distribution Energy Losses Management Strategy

Strategic Objective

*Arrest upward energy losses trend*

*Reduce trend to acceptable level*

**Ensure sustainability at acceptable level of energy losses**

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

- Use **business intelligence** to identify high loss customers
- **Resource and prioritise** customer audits
- **Co-ordinate** customer audits
- **Measure results** nationally

- **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

- **Investigate** all possible options to manage & reduce energy losses
- **Pilot and test** scalability of identified technologies
- **Implement and measure** benefits of tested technologies

- Determine business **RACIs** for revenue losses management activities
- **Detailed analysis** and identify gaps
- **Build competence** and **certify** revenue loss management resources
- **Measure results** and **adjust resource strategy** accordingly

**5**

**Communicate and Educate Stakeholders**

# National ELP Structure

**ELP Steercom**

**ELP Sponsor**

**National Project Management Office**

**6 Regional ELP Project Managers**

**Audit, Measure & Fix Work Stream**

**Network Ringfencing Work Stream**

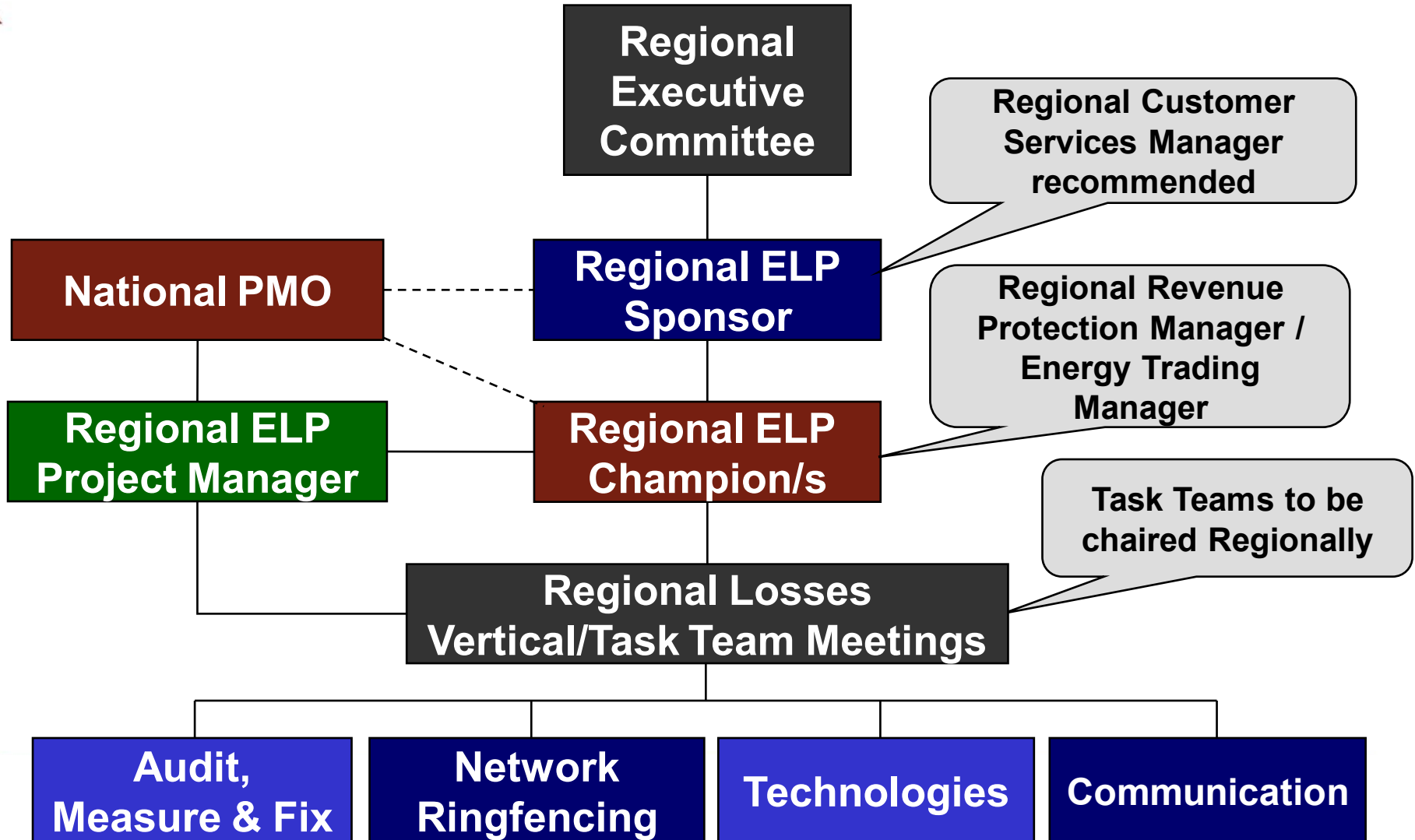
**Technologies Work Stream**

**Manage & Resource Work Stream**

**Communication Workstream**

**Subject Matter Experts**

# Regional ELP Implementation Structure





# Focus on Targeted Customer Audits

- Use business intelligence to **identify** and **target high loss, high risk customers**
- ELP developed and standardised an **audit methodology** and **process** for Large Power Users (LPU), Small Power Users (SPU) and Prepaid Users (PPU) in Eskom Distribution
- The **audit approach** has four elements:



# ELP Scorecard

Key Strategy Component	Key Measures	2007/08 Weighting	2008/09 Weighting	2009/10 Weighting
Targeted Field Audits	LPU Low / No Consumption, Terminated PODs Advancing, Service Points Without Meters	50%	10%	5%
	SPU Low / No Consumption, Terminated PODs Advancing, Service Points Without Meters			
General Audits (Methodology Based)	Number of LPU's Audited	20%	40%	35%
	LPU Fix Rate			
	Number of SPU's Audited			
	SPU Fix Rate			
	Number of PPU's Audited			
PPU Fix Rate				
Feeder Balancing	% of Customers on Balanced Feeders	10%	20%	20%
	% Unallocated Customers			
Energy Losses Measurement	Total Losses	20%	30%	40%
	EBM1 Residential Losses			
	EBM2 % Coverage and Residential Losses			

- **Scorecard** developed in **support** of strategy
- Used to **measure effectiveness** of **activities** and **track outputs** for different Regions
- Used for **Regional Performance Management**, impacting on individuals' performance bonus

# ELP Achievements

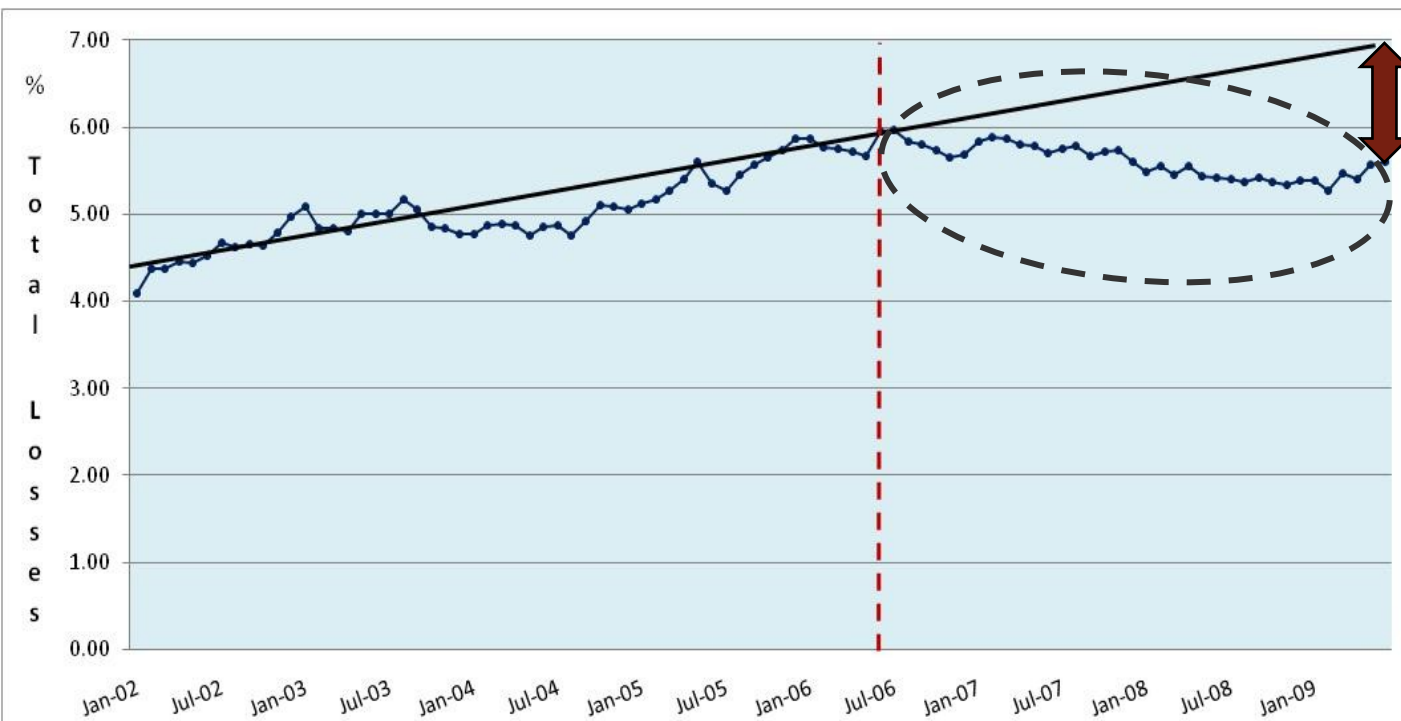
## Trend of total Distribution energy losses

Jan 02 – June 09

■ 12 month moving average (MMA)

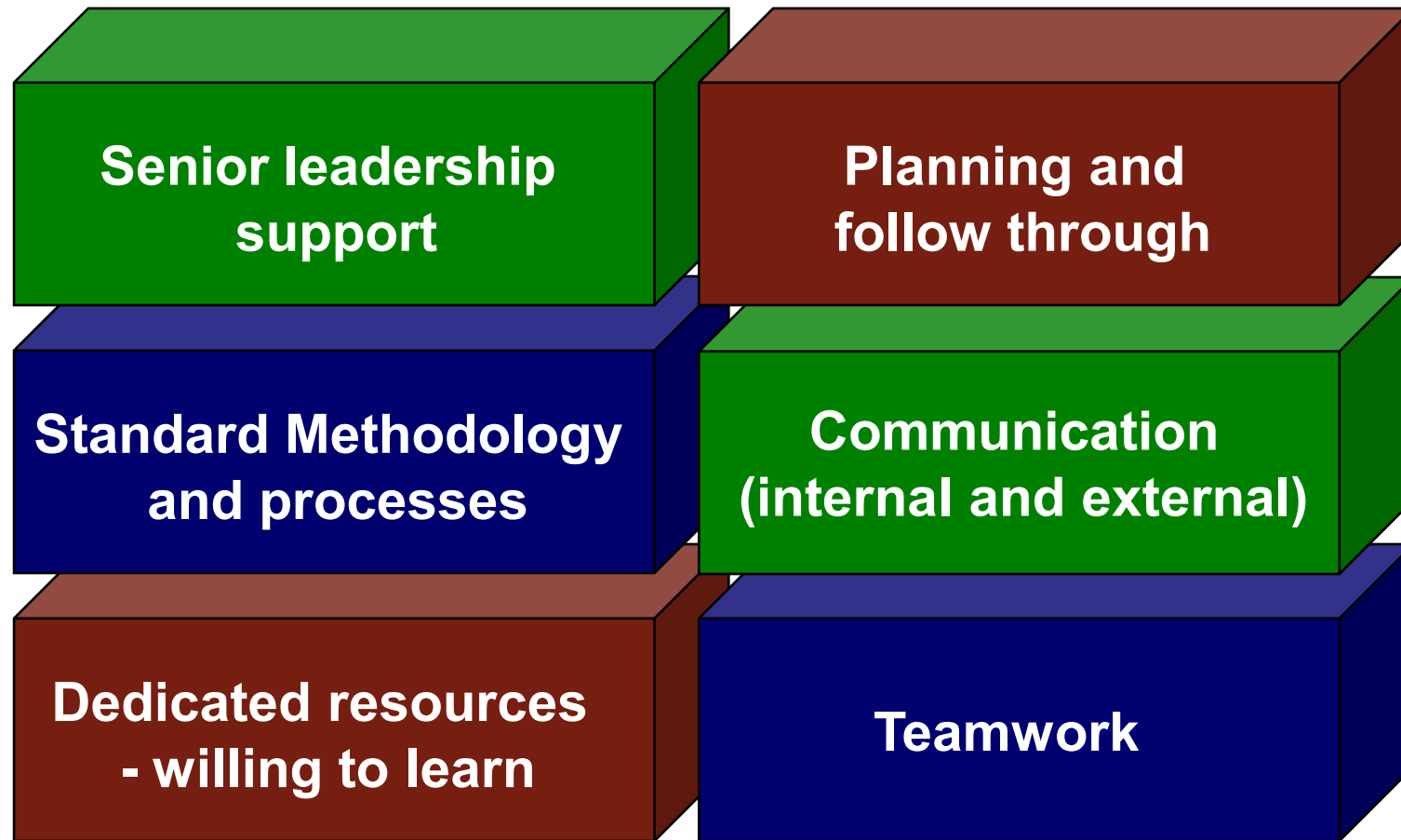
**Dx wide energy losses initiatives**

Total Energy Losses



- **Arresting** the trend - achieved and exceeded in first year
- At end of second year - programme managed to **reduce losses from 6% to 5.5%** (1% loss equates to R400 million)
- **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

# Lessons Learnt – Key Factors



# ELP Contact

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**Thank you**

