Electricity theft and non-payment: Impact and action plan

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Outline

- The scale of electricity theft and non-payment
- The impact on the national demand
- The financial impact
- The bottom line
- The excuses
- A local benchmark
- A proposed action plan
- Conclusions

The scale of electricity theft and non-payment in South Africa

- Eskom non-payment year ending March 2007:
  = 1000 GWh
- Eskom non-technical losses year ending March 2007:
  = 5105 GWh
- Total Eskom losses:
  = 1000 + 5105 = 6105 GWh p.a.
- Total Munic losses:
  = 52,8 / 47,2 x 5105 = 6829 GWh p.a.
- Total Eskom + Munic losses:
  = 6105 + 6929 = 12934 GWh p.a.

The impact of electricity theft and non-payment on the national demand

- Average MW demand over one year:
  = MWh per year / hours in a year
  = 12 936 000 / (365 x 24)
  = 1476 MW

- Peak MW demand:
  = Average MW demand / load factor
  = 1476 / 0,4
  = 3690 MW

The impact of electricity theft and non-payment on the national demand

- Impact of theft and non-payment to the national demand is estimated at 3600 MW
- About 10% of the national demand
- The size of a 6-pack power station
- A huge an unmentioned opportunity with a clear business case
- If we did not have theft and non-payment, we would not have a generation capacity crisis in SA!
- Have you seen any national campaigns like the DSM and energy efficiency campaigns?

The financial impact of electricity theft and non-payment in South Africa

- Loss of electricity sales revenue:
  = 12 934 GWh p.a. @ R0,42 / kWh
  = R5,34-billion p.a.
- Cost of new generation capacity that would otherwise not be required:
  = R75-billion for a new 6 pack power station
- Cost of unserved energy to the productive economy:
  = 25% of 12 934 GWh p.a. @ R75/kWh
  = R200-billion
- Loss to the Treasury of VAT and company tax

The bottom line

The bottom line is that **in an era of serious generation capacity shortages** in which we find ourselves for at least the next ten years, the financial **impact of electricity theft and non-payment is staggering**, and gets to the very heart of the sustainability of the electricity distribution industry in South Africa.

The excuses

- Nit-picking over the facts and assumptions
- The levels of poverty in South Africa
- The culture of non-payment in South Africa
- Lack of commitment and resources from the political leadership, government, police and justice departments in South Africa
- Deflect culpability and shift the blame from where it really belongs: Eskom and the Municipal Distributors

Local benchmarks

- Eskom residential sector non-technical losses:
  27% of electricity delivered
  37% of electricity sold
- PN Energy Services non-technical losses:
  7% of electricity delivered
  7,5% of electricity sold
- PN Energy's non-technical losses are about one quarter of Eskom's residential sector non-technical losses

PN Energy Services (Pty) Ltd

- PN Energy Services was a joint venture between Eskom, EDF and East Midlands Electricity
- Now 100% owned, ring-fenced subsidiary of Eskom
- Manages Khayelitsha's electricity distribution business, infrastructure, maintenance, metering and revenue collection
- Severely disadvantaged, poverty stricken and largely residential urban community

Key differentiating factors applicable to PN Energy Services

- Business model unique in South Africa
- Achieved through its own internal efforts, supported by the community served
- Without preferential support or funding from government or law enforcement agencies
- The business imperatives of a relatively small, ring-fenced private company
- Clear management accountability
- Good community relations
- Good business and revenue protection practices
- IS0 9000 quality management system

Key aggravating factors applicable to Eskom and Municipal Distributors

- State owned monopolies
- Rate-of-return regulatory models
- In many cases, not properly or adequately ring-fenced
- Large vertically integrated accounting systems
- Where the size and structure hides the reality
- Inadequate management accountability
- Poor service delivery and community relations
- Poor business and revenue protection practices
- No IS0 9000 quality management systems

Proposed action plan

- This is an enormous national problem
- Calling for a high-profile national campaign
- With significant penalties and rewards
- Led by the Treasury and NERSA
- Involving the DME, DPE, DPLG, EDI Holdings, Eskom, SALGA, AMEU and all municipal distributors

Proposed action plan (continued)

- Reduce levels of electricity theft and non-payment fourfold over a period of five years
- Budget totaling R20-billion
- Made up of R4-billion per annum for five years
- Led from the top
- Targeting the thieves
- With a profile and management commitment at least equal to the DSM and energy efficiency programs
- With strong economic incentive-based regulation

Conclusions

- The scale of electricity theft and non-payment in South Africa has been caused by management complacency over many years
- Khayelitsha and PN Energy Services indicate that the goal proposed is achievable
- Electricity theft is not caused by poverty, a culture of non-payment, or a weak commitment by government enforcement agencies
- Revenue protection is being applied in ways that are too "user-friendly" towards the electricity thieves!
- This is quite clearly a management problem, or shall we rather say, a problem of mismanagement.

Summary

- The scale of electricity theft and non-payment
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Thank you

- Thank you to SARPA and the organisers of the SARPA Convention 2008 for the opportunity to present a paper
- Thank you to the delegates here this morning for listening so attentively
- Any questions?