

## **PREPAYMENT METERING VS CONVENTIONAL METERING**

### **INTRODUCTION:**

The paper will try and stimulate arguments for and against the prepayment metering system.

Prepayment metering has come to stay, however, the question can be asked: is prepayment metering the solution in all cases and is it cost effective? Domestic consumers seem to prefer prepaid metering due to the financial control it provides them. It also give immediate feedback on usage; therefore there are a number of pro's and con's in having the prepayment system and the conventional system.

### **THE NEWCASTLE EXPERIENCE:**

Newcastle Municipality only supplies electricity in the previous transitional area which represents  $\pm 13\ 000$  consumers of which  $\pm 1\ 100$  are prepayment consumers. The prepayment meters are of the split unit type. Total losses in Newcastle vary between 4,89% and 5,2%.

Over the years very little electricity theft has taken place mainly due to metering being placed on the pavement in lockable steel kiosks as well as in a lockable meter room for businesses.

When tampering has taken place, you invariably find that the lock on the meter box has been damaged or is missing which is detected by the meter reader on his next round and reported to the Electricity department.

The conventional meters had been installed up to 30 years ago. Testing them every 10 years, very few had been found that were not within the SABS guidelines.

### **ADVANTAGES OF PREPAYMENT METERING TO THE MUNICIPALITY:**

1. The Municipality receives payment up-front.
2. No meter readings are required for electricity – water still has to be done. No confrontation with community.
3. No processing of electricity accounts. The cost of processing a token must be taken into account.
4. No posting of accounts required – only for electricity – water and rates still have to be done.
5. Elimination of bad debt – only true if electricity can be terminated to enforce payment.

6. Elimination of connection and disconnection costs.
7. The Municipality may use vendors to give a 24-hour service.

#### **ADVANTAGES TO CONSUMER:**

1. The consumer can budget and manage his electricity more effectively. This is true to some extent – after a while consumers tend not to worry about it anymore. In Newcastle kiosks with a see-through panel are installed to enable consumers to check the meter readings should they wish to do so.
2. The consumer can control his electricity usage. It must be said that you can also control your electricity if you are serious about managing your usage.
3. No re-connection fees.
4. No deposit required.
5. Convenience of electricity purchases (if available). With all the different payment systems such as Easy-Pay, cellphone options, etc it makes life just that much easier. However, paying your conventional meter account can also be done by using Easy-Pay thereby making it an advantage for both systems and not only for prepayment.

#### **DISADVANTAGES TO THE MUNICIPALITY:**

1. Prepayment meters regularly develop faults when compared to conventional meters and must be sent back to the manufacturer at great cost for repairs, or the meters may even be scrapped.
2. Prepayment meters, because being electronic, are more prone to be affected by lightning damage with resulting costs to the Municipality. From the ±1 000 meters installed, Newcastle has had 27 failures in a matter of 3 years.
3. Theft of electricity has become a paramount problem and especially with prepayment meters. People get clever and find ways of beating the system like small constant purchases and bridging of meters.
4. Due to the theft of electricity, losses are on the increase which again increases the tariffs to compensate for the electricity losses.
5. Theft of prepayment meters has also become a problem in certain areas.

6. A lack of trained staff to manage the system exists at most smaller Municipalities and this has cost some Municipalities dearly. In some instances staff is trained but because they are not managed properly, the system does not get managed properly.
7. Meter readers are now replaced by higher paid electrical staff. Meter readers will still be used to read the water meters and there is thus no real reduction in costs to a Municipality.
8. The conventional meters need very little maintenance over many years. Some prepayment meters are placed in positions that just need more maintenance. The maintenance in some areas and especially prepayment areas is much higher. Prepayment meters require more maintenance.
9. Regular inspections have to be carried out on metering installations, especially prepayment systems audit downloads and checking of bridged-out meters.
10. The return on investment in some areas is non-existent. When units of 80kWh are used, the income and profit is so small that it cannot even pay the loan.
11. Changing technology makes prepayment meters out of date too soon and in many cases prepayment meter systems have been changed in the last 10 – 15 years due to more requirements by the consumer and government, i.e. free basic electricity.
12. The consumer expects more flexibility with tariffs which means more trained staff to cope with these demands.
13. Meter readers will not disappear as Municipalities still have to read water meters, thus the technical staff required will add additional costs to the salary budget.
14. Paying of vendors – costs that the Municipality did not have before – vary between 3% and 6%.
15. The prepayment system must be administered on a daily basis.
16. Only a complete system ensures efficient revenue management. Metering – vending – database – management of the system

#### **DISADVANTAGES TO CONSUMER:**

1. In many instances the unit cost of electricity on the prepayment system is higher than on the conventional system, especially if you have a high consumption. The cost per unit on prepayment is low compared to the conventional meter on low consumption and if everyone uses low units, Municipalities will not be able to pay their fixed costs.

2. The consumer would have to pay up to three times more on the capital outlay for a prepayment system than on a conventional system.
3. Frustration from consumers when the meter does not want to accept the token.
4. On changing from conventional metering to prepayment, the consumer will have to pay double in the first month of change-over.
5. The long lifetime of conventional meters constrains the service options of the consumer and the Municipality.

### **CONCLUSION:**

When calculated over a 30 year period, the cost of the prepayment system is twice the cost of the conventional metering system.

If we think prepayment metering is the solution, think again. Yes, it is a solution in some instances, gives more flexibility and different options while giving the consumer the opportunity to pay for his electricity in advance and control his spending, but, when taking into account that in certain areas the cost of installing and maintaining such a system is higher and with all the disadvantages to the Municipality, the system might just be too expensive.

It must further be said that social needs, requirements and convenience might be more of a consideration than cost and for that reason the statement that prepayment metering is here to stay is included in my introduction.