

Domestic Load Management and Measurement

"THE RIGHT WAY"

1. Introduction

Due to the shortage of electrical energy in Southern Africa, we have to start thinking laterally with "out of the box solutions". I'm sure all of us have been affected in some way or another by load shedding and have asked ourselves the question "How can we help?"

Fortunately we at National Power have joined forces with an Danish company – DEVELCO, and think we have a fully integrated technological solution that can assist the supply authorities and the customer, and create a win - win scenario that will most definitely go a long way in alleviating the electrical energy and demand shortage i.e. mandated 10% rationing and tax that will be levied on non compliance.

2. "My home is my castle - why don't I have a say?"

The Governments slogan DME – "It's in my power" is in one caption what we as South Africans should adhere to, this most definitely has to include the supply authorities.

Do our supply authorities actually follow government's philosophies? "Switch us off" is the supply authority's solutions to the problem, national ripple control – and now we all have cold water!

Why should the customer be dictated to? , we pay for our power, what happened to "the customer is always right". We need to be informed "talk to us". This is our country let us help – EMPOWER ME PLEASE!!!!

3. How do I take control?

We live in a modern world where technology plays an important part in making our daily lives easier (e.g. Mobile phones).

I can take control by using a cost effective market driven product. I can take control by existing financial models such as "free mobile phones with a contract" and leasing options.

I pay to say - "IT'S IN MY POWER. I CAN TAKE CONTROL!"

4. How do I empower myself?

The old saying you need to measure to manage:

- * I need to know how much I'm using and when.
- * I need to be communicated to.
- * I need flexible control.
- * I need security.
- * I need benefits – Cost, savings and management.
- * I need to be in control.
- * I want to save.
- * I want to be an example.
- * I want guaranteed Electricity supply.
- * I don't want to be load shed.

5. The way I do it – The technology

Measure to manage – Time-of-use billing, electrical profile data, gas, water and thermal energy all in one, in my house (meter display), on my cell phone and on the Internet.

- * I can check the supply authority metering – no more billing estimations.
- * I can budget.
- * I can measure my usage and save.
- * I can help!!
- * I can manage my loads remotely.
- * I can sit in bed and switch my geyser off.
- * I can be on holiday and turn lights on and off remotely
- * I can take control.

6. The Meter

Why is the meter better than normal automatic meter reading, prepayment and conventional metering?

ZIGBEE master – can connect to 65000 remote devises, such as control relays, passive infra red's, remote switchable plug points and the list goes on.



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6. The Meter cont..

This is the right way, because the meter does a multitude of other functions.

- * Built in GSM modem.
- * Interactive screen.
- * TOU meter – profile data.
- * ZIGBEE master – can connect to 65000 remote devices, such as control relays, passive infra red's, remote switchable plug points and the list goes on.

The meter can be packaged as a system, which gives the home owner and the supply authority remote control of their loads, such as geysers and swimming pool pumps etc.



All of the remote devices are connected via wireless communications “ZIGBEE” and are self powered with long life batteries. This means there are no wires and installation is quick and simple.

User configurable options can be supplied depending on the user's requirements.

7. The Financial Models

Each of the following is a viable financial model:

The supply authority rents the system and rental is amortised by leveraging the time of use tariffs. The “mobile phone model” - get the system free with a contract.

The customer buys the system. (This relieves the supply authority of capital cost normally associated with metering installations.)

Saves the customer money by leveraging the TOU tariff and by making the customer aware of targets mandated by government.

8. Better Customer Relations

The customer gets a metering system that adds value.

- * The customer gets an integrated security system.
- * The supply authority can communicate directly with the customer.
- * The customer can help with load shedding.
- * The customer is not forced to accept technology, but gets optional packages to suit their needs.

9. Conclusion

If we work together we can solve the South African energy crisis, by using technology that does exist.

By doing this we create a win - win situation whereby everybody benefits.

This metering system is rolling out in Denmark and Sweden by the hundreds of thousands, a lot more empowered and happy customers every day.



Dave Bekink (right) meets Develco in Denmark

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