

The Green Economy and Wheeling in the NMBM

SEA-SALGA-SACN Urban Energy Network Meeting

T Ferndale



nelson mandela bay
MUNICIPALITY





Why ???

- Recognise that current electricity environment is unsustainable, and future electricity price increases unpredictable.
- Price increases have resulted increases in non technical losses: NMBM non technical losses have increased from about 3% to 8% in last six years
- Revenues to Municipalities have dropped. Electricity can no longer fund rates and general account at levels it previously did.
- NMBM VIEW: recognised the major role that local renewable energy can play in the local economic development by attracting RE business (rates, jobs), reducing long term energy costs





NMBMs Policies to Encourage Green Economy

the local

The NMBM accepted the following 2 longer term policies

- To buy renewable electricity generated within the boundaries of the NMBM at the equivalent Eskom tariffs applicable (*this can legally be accommodated within the MFMA*)
- To allow green electricity licensed traders to trade up to 10% of the total demand of the NMBM and to support such traders. (*Traders have to be licenses by NERSA in terms of National policies*)



What is Wheeling

Wheeling is the term for the transportation of energy over the grid from one party (the seller) to another party (the buyer).

Wheeling, or network use, charges refer to the costs of the network and apply to all customers equally.

These costs include deep connection costs, maintenance, operations, refurbishment, customer services, administration, as well as system charges, such as electrification and rural subsidy charges.



Principles of Trading

Green generators and trader to be licensed by NERSA

Customers to remain the customers of NMBM but can buy their energy requirements in total or partially from the green electricity trader to a summated maximum of 10% of the NMBM demand.

All green electricity generated, distributed and used will be offset and balanced by the independent agency (Generator output, Eskom bill to NMBM, NMBM bill to customer and customer green purchased electricity)

NMBM to be paid a wheeling charge as agreed (7% to be increased to 20%)

Due to the potential intermittency of green electricity, the green energy generated will be considered on a monthly base and the amount traded with (generated or purchased) will be averaged for all hours of the month and then offset from the applicable NMBM tariffs on a half-hourly base for both energy and demand charges (eg. If a small wind turbine generates 2000 kWh per month with 30 days, the half-hourly energy would be $2000 / (30 \times 24 \times 2) = 1.39$ kWh per half-hour with a demand of 2.78kVA. The energy and demand charges calculated in this way would be deducted from the NMBM tariffs for the customer bill and the wheeling charge to the NMBM would also be calculated on these figures.)

Small generators of electricity will be encouraged within the NMBM area once the operation is up and running.



Principles of Trading.....

NERSA has awarded Amatola (APG) a 15 year Trading Licence.

A Licence for APG to setup agreements with Eskom and Municipalities to use the public grid.

Licence allows APG to select customers on a “willing buyer, willing seller” basis and link to generators and to group customers and generators together.

Power IST setup the metering platform together with NMBM.

Meter sits at generator and at Customer and metering platform sits on NMBMs SILK system.

NMBM account is generated on a monthly basis

Indicates total power consumed by customer as well and green energy generated

THE GENERAL MANAGER
BRIDGESTONE TYRE COMPANYPTY

Attention: MH Schoultz

Fax: 041 453 7762

Invoice Date
10-Apr-15

Account No.
600 215 766 102

Invoice No.
INV15030

Tariff: T35 (2014_15) Green

ELECTRICITY INVOICE FOR THE MONTH OF: March 2015

Reading date: 31-Mar-15

BASIC CHARGE			R	2,428.14
ACTIVE ENERGY CHARGE				
WINTER		kWh		
SUMMER	1,604,021.500	kWh		
LESS GREEN ENERGY CHARGE				
WINTER		kWh		
SUMMER	73,463.359	kWh		
NETT ENERGY CHARGE				
WINTER		kWh	122.940 c/kWh	R 0.00
SUMMER	1,530,558.141	kWh	61.438 c/kWh	R 940,344.31
MAXIMUM DEMAND CHARGE	4,621.429	KVA		
17-Mar-2015 @ 11:00				
LESS GREEN DEMAND CHARGE	413.833	KVA		
NETT DEMAND CHARGE	4,207.596	KVA	94.14 R/kVA	R 396,094.68
TOTAL			R	1,338,867.13
VAT			14.00 %	R 187,441.40

Total Paid to Municipality: Net Energy Charge + Net Demand charge, where:

a. Net Energy Charge = Active energy charge – Green energy charge
(which BHP Billiton pays directly to AGP)

b. Net Demand Charge = Maximum demand charge – Green demand charge (which BHP Billiton pays directly to AGP)



Wheeling Charges

Typical Unbundled electricity charge consists of three distinct charges i.e. the energy related charge, the demand related charge and the customer related charge

Energy – related costs. These costs vary with time of use as generation costs change according to system load requirements which differ according to the time of day. They also include a cover for any technical electricity losses.

Demand - related costs. Capacity or demand-related costs are related to the maximum demand of each customer. When customers' maximum demand is particularly high, an investment in infrastructure capacity may be required. Demand-related costs include network capital costs (the costs of purchasing the network infrastructure), network maintenance, demand purchase costs, the wires component of the purchase

Customer –related- costs. Customer costs do not vary with the usage or the size of customers but instead are a function of the number of customers served. They include, among other things, meter and meter services, billing expenses, customer care,

Generally Demand and Customer charges grouped together and called “network charges”



Wheeling Charges.....

Cost of supply study has been completed and indicates:

Network charges...the charges that a Utility must recover from the tariff to cover its cost vary significantly

Large Business – 24% (make up 53% of the energy consumed)

Domestic Prepaid – 31% (make up 23% of energy consumed)

Medium business – 51% (make up 13% of energy consumed)

NERSA would like to see tariffs at Eskom plus 20%!

NMBM has recognised that it will lose in recovery of its network charges by charging a wheeling charge of 20%

Hopes to economic benefits of encouraging and supporting green economy will more than make up for loss

Thank you