



KENYA POWER PRESENTATION TO



Presented by:
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15th July, 2011

STATUS OF THE ROLLOUT OF PREPAYMENT METERING SYSTEM

- The company's prepaid metering project, which commenced on a pilot basis in April 2009
- It was introduced for purposes of meeting certain key objectives that include:
 - improvement of the Company's services to its customers through giving them the power to control their electricity supply,
 - elimination of estimated bills,
 - improvement of billing accuracy;
 - elimination of disconnection and reconnection;
 - enhanced privacy,
 - decongestion of the Company's banking halls;
 - and enhancement of ease of bill payment.
- The pilot was successful.

STATUS OF THE ROLLOUT OF PREPAYMENT METERING SYSTEM

METERING PROGRESS:

- Following the successful pilot project, rollout of the project commenced in March 2011, and by 30th June 2011 a total of **123,000** prepaid meters had been installed throughout the country with a majority of them in Nairobi.
- The project is continuing and we anticipate connection of a total of **520,000** meters by the end of the current financial year.

STATUS OF THE ROLLOUT OF PREPAYMENT METERING SYSTEM

CHALLENGES FACING PREPAID PROJECT:

1. STEP TARIFF FOR DOMESTIC CUSTOMERS

Prepaid customers are being educated to understand domestic tariff (DC) as applied to Prepaid as follows:

i. Fixed & Energy Charges:

a) Monthly Fixed Charge of KSh 120.00* charged every calendar month.

b) Energy charges of : -

- KSh 2.00 per Unit for 0 - 50 Units bought;

- KSh 8.10 per Unit for 51-1,500 Units bought;

- KSh 18.57 per Unit for Units bought above 1,500.

- **This is why say Kshs. 500 will not get one the same number of units at various times of the month depending on the unit band the customer purchase falls in**

STATUS OF THE ROLLOUT OF PREPAYMENT METERING SYSTEM

CHALLENGES FACING PREPAID PROJECT:

1. STEP TARIFF FOR DOMESTIC CUSTOMERS

ii. 3rd Party Charges (Variable from Month to Month)

- Fuel Cost Adjustment (due to low hydrology necessitating use of thermal units)
 - Foreign Exchange Adjustment
 - Inflation Adjustment
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- **This is why the same amount of say Kshs. 500 will not get one the same number of units for different months of the year, all other factors remaining constant.**

STATUS OF THE ROLLOUT OF PREPAYMENT METERING SYSTEM

CHALLENGES FACING PREPAID PROJECT:

1. STEP TARIFF FOR DOMESTIC CUSTOMERS

iii. Taxes & Levies

- The customer shall pay any taxes, levies or duties imposed from time to time by the Government.
- At present, the following are levied by the Government:
 - i. VAT* at 12% charged to:
 - a) Fixed Charge
 - b) Demand Charge (not applicable to domestic customers)
 - c) Foreign Exchange Fluctuation Adjustment
 - d) Fuel Cost and;
 - e) Inflation Adjustment
 - f) Taxable value of electrical energy consumed in a manner required by the Government.
 - ii. Rural Electrification Programme (REP) levy at 5% of revenue from Unit sales.
 - iii. Energy Regulatory Commission (ERC) levy at 3 Kenya cents/kWh

STATUS OF THE ROLLOUT OF PREPAYMENT METERING SYSTEM

CHALLENGES FACING PREPAID PROJECT:

1. STEP TARIFF FOR DOMESTIC CUSTOMERS

iv. Taxable Value of Electrical Energy

- As per the Fifth Schedule of the Value Added Tax Act Cap 476:
- “VAT shall be exempt in the supply of electrical energy to a domestic household where the consumption does not exceed two hundred kilowatt-hours (200kWh).”
- When one exceeds 200kWh in a particular month, VAT charges shall be levied on all the electrical energy (units) bought from the beginning of the month.
- **This is why sometimes customers are requested to top up money so as to get units/tokens when one exceeds 200kWh**

STATUS OF THE ROLLOUT OF PREPAYMENT METERING SYSTEM

MITIGATION ON STEP TARIFF (DC):

- Carrying out intensive customer education as regards KPLC tariffs through our Customer Relations Officers, especially the Domestic Tariff (DC).
- Enhanced sensitization to be done using both print and electronic media.
- Lobbying Finance Ministry to exempt charging of VAT for first 200 units for all customers. Proposal already sent to ERC for tariff review.

STATUS OF THE ROLLOUT OF PREPAYMENT METERING SYSTEM

CHALLENGES FACING PREPAID PROJECT:

PREPAID METERS

- Kenya Power acknowledges that there has been a few cases of faulty meters which are so far below 4% of the total population of the meters installed
- This is within the internationally acceptable failure limit for both postpaid and prepaid meters

STATUS OF THE ROLLOUT OF PREPAYMENT METERING SYSTEM

CHALLENGES FACING PREPAID PROJECT:

MITIGATION ON PREPAID METERS

- Kenya Power has set up special rapid response teams to expeditiously attend to these cases.
- Kenya Power has advertised contacts of the personnel involved in the resolution of these cases.
- We have also set up a dedicated call centre for prepaid customers.
- These personnel, who have been stationed in the prepaid project sites, will provide rapid response capability to enable the company resolve any faulty meter cases including the refund of any over charged units.
- Kenya Power will also proactively inspect and change all meters that are suspected to be faulty.

STATUS OF THE ROLLOUT OF PREPAYMENT METERING SYSTEM

CHALLENGES FACING PREPAID PROJECT:

VENDING OF ELECTRICITY TOKENS

- Vending services for prepaid customers is being provided as follows:

	Vendor Name	Vendor Location	Business Hours
	Kenya Power & Lighting Co.	Stima Plaza	8.00a.m. – 4.30p.m.
	Kenya Power & Lighting Co.	Electricity House	8.00a.m. – 4.30p.m.
	Uchumi Capital Centre	Mombasa Road	8.00a.m. – 8.00p.m.
	Uchumi Ngong Hyper	Ngong Road	8.00a.m. – 8.00p.m.
	Uchumi	Langata Road	8.00a.m. – 8.00p.m.
	Sarit Centre (KPLC Office)	Sarit Centre	8.00a.m. – 4.30p.m.
	Thika (KPLC Office)	Thika	8.00a.m. – 4.30p.m.
	Mobile vending services (MPESA & AIRTEL MONEY)	Stima Plaza	24hrs
	Nyeri Office	Nyeri	8.00a.m. – 4.30p.m.
	Nakuru Office (E/Hse)	Nakuru	8.00a.m. – 4.30p.m.
	Eldoret Office	Eldoret	8.00a.m. – 4.30p.m.
	Makadara Office	Makadara	8.00a.m. – 4.30p.m.
	Eastleigh Office	Eastleigh	8.00a.m. – 4.30p.m.

STATUS OF THE ROLLOUT OF PREPAYMENT METERING SYSTEM

CHALLENGES FACING PREPAID PROJECT:

MITIGATION ON VENDING OF TOKENS

- Provision of sufficient, convenient vending points will be enhanced through engagement of three additional 3rd Party National vendors, who will substantially increase the vending footprint.
- The process is at an advanced stage; and upon completion, prepaid customers will be able to purchase tokens at convenient points near their residence.
- Reliability of the mobile phone vending services will also be enhanced in liaison with the concerned mobile phone service providers.

STATUS OF THE ROLLOUT OF PREPAYMENT METERING SYSTEM

BENEFITS OF PREPAID ELECTRICITY:

- No more disconnections**
- No more paying of accounts deposits**
- Total control of your consumption on daily basis (pay when you want to and pay any amount)**
- Eliminates unpleasant surprises (like high monthly bills and disconnections)**

STATUS OF THE ROLLOUT OF PREPAYMENT METERING SYSTEM

BENEFITS OF PREPAID ELECTRICITY:

- **No reconnection fees when you forget to make payments**
- **Eliminates corruption in the disconnection and reconnection of power**
- **No estimated bills**
- **No more under or over estimated bills due to premises access problems**
- **Employment creation-contractors and 3rd party vendors**

STATUS OF THE ROLLOUT OF PREPAYMENT METERING SYSTEM

BENEFITS OF PREPAID ELECTRICITY:

- No more waiting for electricity bills**
- Enhanced privacy**
- Instant reconnection upon purchase of units**
- No more queuing to pay bills**
- Reduces landlord-tenant conflicts**

**STATUS OF THE ROLLOUT OF
PREPAYMENT METERING SYSTEM
CUSTOMER SATISFACTION SURVEY
(Conducted by Strategic Business
Options - June 2011):**



Findings

Pre Paid Customers

Appeal

Likes

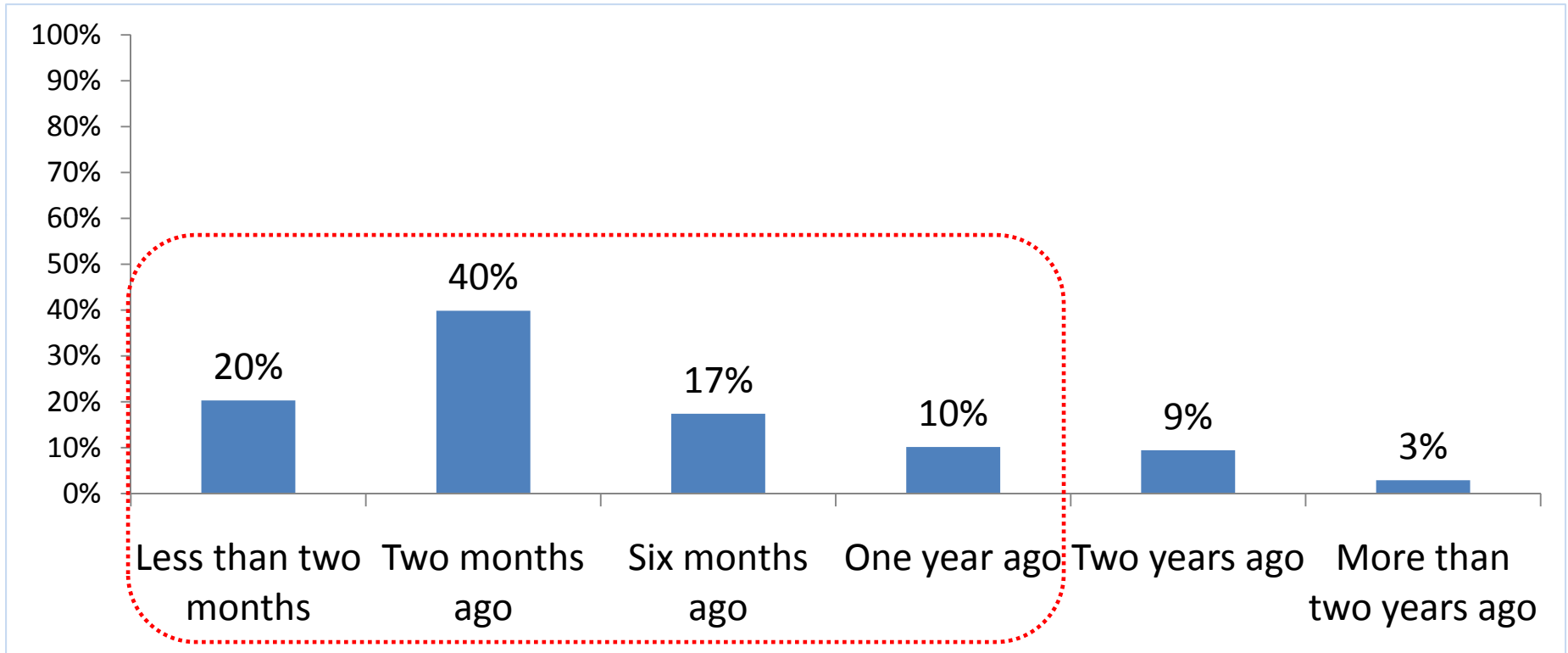
- Convenient
- Cheaper
- Ability to monitor and regulate usage
- Easy to top up
- No bills

Dislikes

- Limited places where one can buy the tokens
- Delays in topping up through M-pesa
- Long digits / code
- Units are not constant – varying rates of units for the same amount
- Long queues

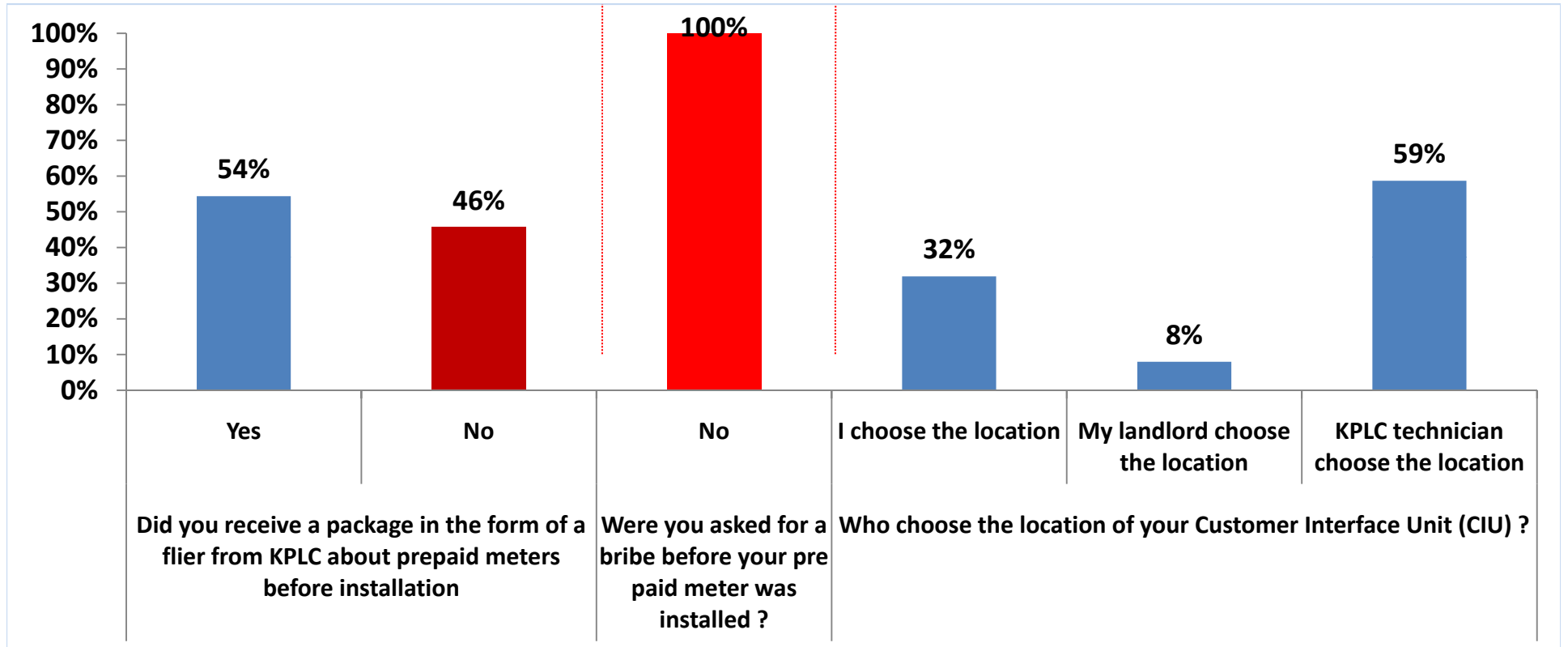
Pre Paid Meter – Length of time used

Q. When did you start using the pre paid meter?



Majority of pre paid customers have used the service for less than a year.

Customer Experience during Installation

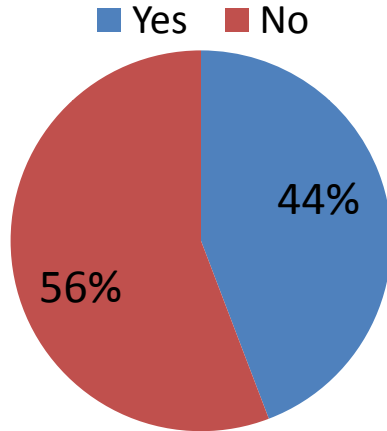


54% of pre paid customers did not receive any package prior to installation while 34% choose the location of their CIU.

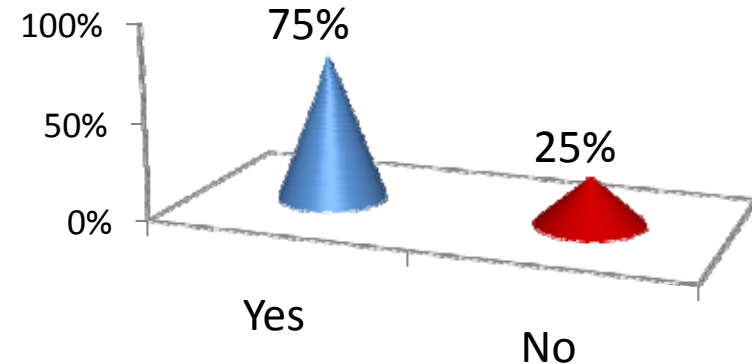
No customer was asked for a bribe prior to installation.

After Care Service

Do you know what number to call when you have a problem with your pre paid meter?



Would you recommend the pre paid meter to people who are currently not on pre paid meter?

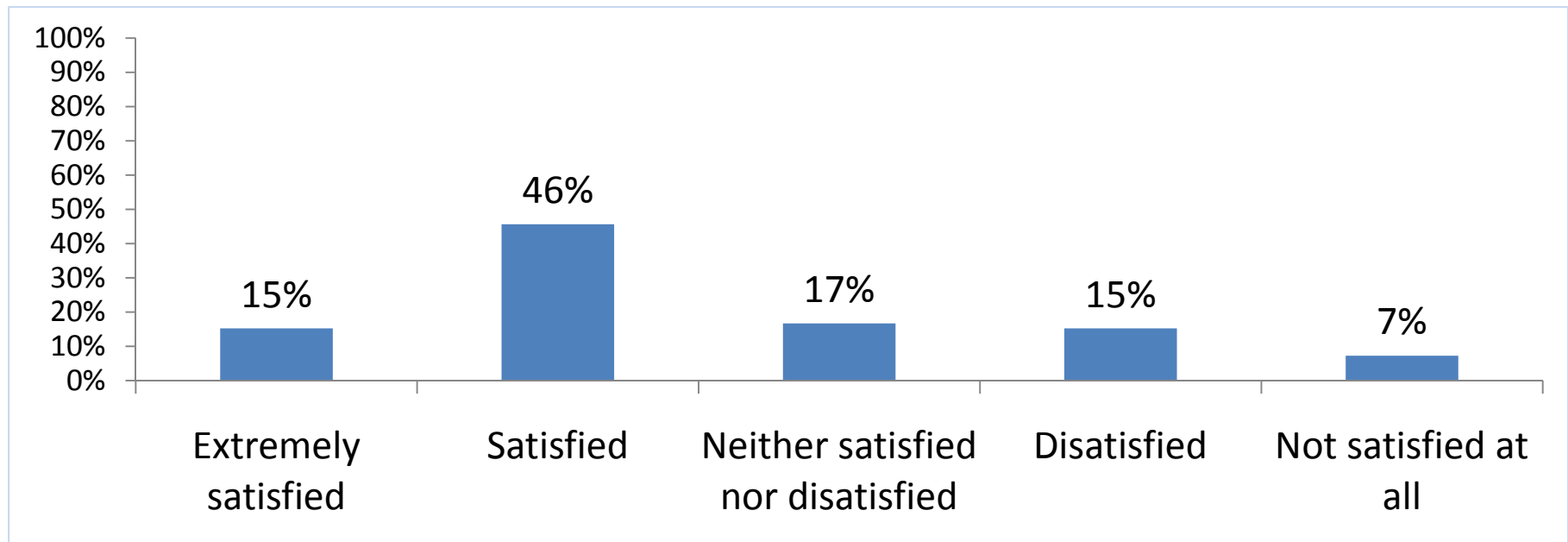


Most pre paid customers are not aware of the number to call when they have a problem with their meters.

25% would not recommend the pre paid meters to others. This was driven by the perception that pre paid meters were more expensive compared to post paid.

Overall Satisfaction

Q. Overall, how satisfied are you with the pre paid meter?



There are high levels of satisfaction among pre paid customers. Only 22% of pre paid customers were dissatisfied.

“KPLC should bring purchase points closer to the customers. With an estate of over 3000 units we would qualify to have a pay point in the estate which can serve the surrounding areas as well” Nyayo Embakasi customer

Mfangano Island Customers

Likes

- Convenient
- Able to monitor usage
- Cheaper compared to using

Dislikes

- Delays caused when buying tokens through M-pesa
- Power going off at midnight

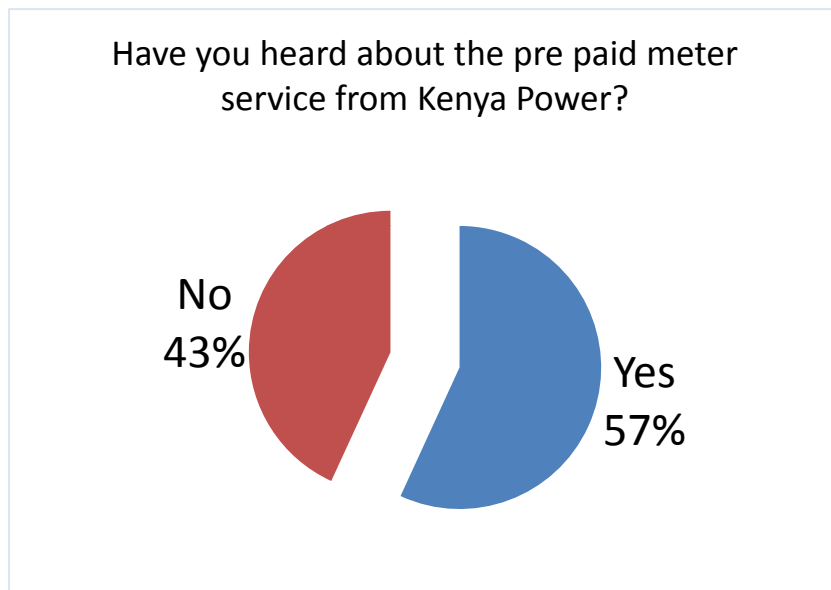
“Units keep changing all the time, I bought a token for 1000 shillings and it gave me 56 units, now it has gone down to 40 units”

Mfangano Island Customers

Suggestions for improvement:

- Sell Tokens at the Post Office
- Have offices close to the island
- Provide a toll free customer care line
- Reduce power rationing – provide power throughout the night

Post Paid customers perception about Pre Paid Meters



Source of awareness	
TV	54%
Friends and family	45%
Radio	34%
Newspapers	26%
Fliers attached to bills	18%
Posters	9%

57% of post paid customers have heard about the pre paid meter service mainly through TV and word of mouth (friends and family).

If given a choice, 59% of the post paid customers would like to switch to the pre paid meters.

POWER QUALITY AND RELIABILITY

INTRODUCTION:

- The quality of power in the country is affected by several factors:
 - weather,
 - equipment failure,
 - vandalism,
 - wear and tear,
 - age of network,
 - fast growth in development,
- Availability of adequate generation capacity is important in order to keep pace with power needs growth.

POWER QUALITY AND RELIABILITY

CHALLENGES:

1. VANDALISM OF TRANSFORMERS

REGION	JUNE	MAY	APRIL	MARCH	TOTAL	ANNUALIZED
NAIROBI	46	60	41	40	187	
North	18	20	11	11		
South	16	27	10	12		
West	12	13	20	17		
COAST	Nil	5	nil	3	8	
Mt KENYA	24	26	30	24	104	
North	8	10	17	12		
South	16	16	13	12		
WEST	14	15	20	19	68	
West Kenya	7	5	12	8		
Central Rift	4	8	7	5		
North Rift	3	2	1	6		
TOTAL					367	1101

POWER QUALITY AND RELIABILITY

CHALLENGES:

1. VANDALISM OF TRANSFORMERS

- Transformers lost due to vandalism per month, 92 units
- Cost of replacement – at Kshs 800,000 per unit – loss is 73,600,000 per month.
- The actual economic loss to the country is estimated at four times this , i.e. Kshs 294,400,000 , money that could be utilized to provide other services or in improving the network.
- Vandalized transformers affect the customers directly fed by the said unit, and all those connected to the same main line, once the transformers fail , the Kenya Power system takes as a fault on the line, and isolates the whole line, thus inconveniencing many people. It also aggravates the said customers as engineers try to locate the fault, supply is switched on and off several times.

POWER QUALITY AND RELIABILITY

MITIGATION ON VANDALISM OF TRANSFORMERS:

- Welding the transformers to the structures
- Reposition transformers to individual compounds (it has its own drawbacks)
- Media campaigns “Mulika Mwizi” appealing to the public to report vandals and to “own” the infrastructure.
- Lobbying parliament and the government to make “vandalism” a capital offence or treat it as economic sabotage.
- Enhanced inspections of the transformers
- Community policing

POWER QUALITY AND RELIABILITY

MITIGATION ON VANDALISM ON TRANSFORMERS:

- Use of “dry” type transformers in area most prone to vandalism
- Installation of intruder alerts on Transformers in areas prone to vandalism
- We are also automating parts of the Nairobi and Mombasa networks to ensure we can locate faults fast, and thus ensure low outage time as we shall eliminate the driving (with all the jams) required to locate and restore supplies at this time.
- We are also increasingly using concrete poles on new and reinforcement projects to stop power lines falling and thus causing outages due to rotten poles.

POWER QUALITY AND RELIABILITY

NETWORK REINFORCEMENT AND NEW PROJECTS:

- To address wear and tear and ageing of the network, we have embarked on a program to upgrade it
- This involves adding new lines and substations
- The following projects are on going in Nairobi and are expected to be completed before June 2012:

NETWORK REINFORCEMENT AND NEW PROJECTS:

SUB STATION	TARGETTED AREA
LAVINGTON 66/11KV	Lavington, Kawangware, Kilimani areas
KABETE 66/11KV	Naivasha road, Kawangware, Waiyaki way, Uthiru areas
BOMAS 66/11KV	Langata area, Karen, Magadi road , Ongata Rongai
KIAMBU 66/11KV	Kiambu – KIST area, Kirigiti
EASTLEIGH 66/11KV	Eastleigh area and parts of Eastlands
MUTHURWA 66/11 kV	CBD and parts of Eastlands, Industrial area
RUAI 66/11 KV	Ruai - Tala

POWER QUALITY AND RELIABILITY

NETWORK REINFORCEMENT AND NEW PROJECTS:

- These projects will greatly enhance the quality and reliability of power in Nairobi
- They will enable the connection of another 300,000 new customers (Nairobi takes 60%) in an effort to connect all Kenyans by year 2030.

POWER QUALITY AND RELIABILITY

**OTHER NETWORK REINFORCEMENT PROJECTS
BEING UNDERTAKEN COUNTRYWIDE:**

No.	Project	Status	Funding
			Total Project Funding (KShs Mill.)
1	Githunguri 33/11kV S/S New 7.5MVA S/S	Project start date 2010/11,	121.5
2	Ndenderu Road Substation New 2x10MVA 66/11kV S/S	Project start date 2010/11,	356.4
2	New Athi Substation New 1x23MVA 66/11kV S/S	Project start date 2010/11,	194.4
4	Kiambu Town 66/11kV S/S New 2x23MVA 66/11kV S/S	Project start date 2010/11,	356.4
5	Rironi 66/11kV S/S New 2x10MVA 66/11kV S/S	Project start date 2010/11,	330.5
6	Lower Kabete Substation New 2x10MVA 66/11kV S/S	Project start date 2010/11,	317.5
7	Githunguri Substation New 1x23MVA 66/11kV S/S	Project start date 2010/11,	378.3
8	Athi River EPZ reinforcement 66/11kV S/S New 1x23MVA 66/11kV S/S	Project start date 2010/11,	187.9
9	Villa Franca Substation New 2x23MVA 66/11kV S/S	Project start date 2010/11,	304.6
10	Uplands Substation New 1x23MVA 66/11kV S/S	Project start date 2010/11,	256
11	Ngong – Matasia 66kv line 20Kms , 66kV line	Project start date 2010/11,	64
12	Reconductoring 66kv lines 200Kms , 66kV line	Project start date 2010/11,	561.3

13	Mishomoroni Substation New 7.5MVA S/S & 16Km , 33kV line	Project start date 2010/11,	210.6
14	Kwale 33kv line 90Kms , 33kV line	Project start date 2010/11,	159.6
15	Shimoni – line33kv line 76Kms , 66kV line	Project start date 2010/11,	142.6
16	Coast 33kv line Various	Project start date 2010/11,	208.2
17	Kwale 33kv line Various	Project start date 2010/11,	57.5
18	Ahero S/S New 2.5MVA S/S & 20Km , 33kV line	Project start date 2010/11,	121.5
19	Chepseon S/S New 2.5MVA S/S, 5Km , 33kV line,10kms 11kV line	Project start date 2010/11,	81
20	Elgon View New 7.5MVA S/S 2Km ,33kV line,2kms 11kV line,	Project start date 2010/11,	178.2
21	Kaplamai New 2.5MVA S/S 2Km ,33kV line,2kms 11kV line,,	Project start date 2010/11,	194.4
22	Kibos S/S New 7.5MVA S/S 4Km ,33kV line,2kms 11kV line,	Project start date 2010/11,	194.4
23	Majengo S/S New 2.5MVA S/S, 2Km ,33kV line,2kms 11kV line,	Project start date 2010/11,	81
24	Maseno S/S New 7.5MVA S/S	Project start date 2010/11,	137.7
25	Maseno S/S New 1x7.5MVA S/S & 40Km , 33kV line	Project start date 2010/11,	187.9
26	Kericho S/S New 1x7.5MVA S/S	Project start date 2010/11,	90.7
27	Kapsowar 33kV lines 70Km , 33kV line	Project start date 2010/11,	142.6
28	Kabarak University S/S New 1x7.5MVA S/S	Project start date 2010/11,	90.7

29	Kaplamai New 2.5MVA S/S 2Km ,33kV line,2kms 11kV line,,	Project start date 2010/11,	167.7
30	Kapsarman 33kV lines 87Km , 33kV line	Project start date 2010/11,	142.6
31	Matutu s/stn New 2.5MVA S/S	Project start date 2010/11,	167.7
32	Kibos S/S New 7.5MVA S/S 4Km ,33kV line,2kms 11kV line,	Project start date 2010/11,	71.3
33	West Kenya 33kv lines 412Km , 33kV lines	Project start date 2010/11,	915.3
34	Gatundu 33/11kV S/S New 7.5MVA 33/11kV, 10Km ,33kV line,10kms	Project start date 2010/11,	202.5
35	Juja (Ndarugu) 33/11kV S/S New 7.5MVA 33/11kV 5Km ,33kV line,4kms 11kV line,	Project start date 2010/11,	97.2
36	Mwea 33/11/kV s/s New 1x7.5 MVA Txs, 22Km ,33kV line,5kms 11kV line,	Project start date 2010/11,	153.9
37	Tala 33/11kV S/S New 7.5MVA 33/11kV, 33Km ,33kV line,5kms 11kV line,	Project start date 2010/11,	162
38	Kangema (Muranga) 33/11kv substation new 2x7.5MVA txs, 13km 33kV line and 10km 11kV line	Project start date 2012/13,	218.7
39	Tala 33/11kv substation new 2x7.5MVA txs, 20km 33kV line and 5km 11kV line	Project start date 2012/13	105.3
40	Kianjai 33/11kV S/S Uprate to 2x2.5MVA an additional feeder	Project start date 2010/11	71.3
	TOTAL FUNDING		8,183

ENHANCING GENERATION CAPACITY:

- Kenya Power has entered into Power Purchase Agreements (PPA's) with several generating companies to ensure Kenyans will continue to enjoy available power
- The table below shows the planned generation:

Project	Energy Source	Capacity (MW)	Expected date
Tana Redevelopment	Hydro	20	Jan 2011
Olkaria Wellhead	Geo	70	Jun 2011
Kipevu MSD	Thermal	120	Jan 2011
Triumph Power Athi River	Thermal	81	Apr 2012
Gulf Power Athi River	Thermal	84	Apr 2012
Melec Powergen Thika	Thermal	87	Jun 2012
Sangoro Power Plant	Hydro	21	Dec 2011
Eburru	Geo	2.2	Dec2011
Ngong Wind PII	Wind	20.4	Jan 2012
Aeolus Kinangop	Wind	60	March 2013
Lake Turkana Power	Wind	300	Dec2013
Olkaria Extension	Geo	140	Jun 2013
Kindaruma Upgrade	Hydro	32	Dec 2013
Athi River Mining Coal	Coal	19.5	Dec 2013
Olkaria IV	Geo	140	Dec 2013
Orpower additional	Geo	52	Dec 2013
Mombasa Coal Plant	Coal	300	Dec2014
Ethiopia Import	Import	200	Dec 2014
		1749	

Thank you