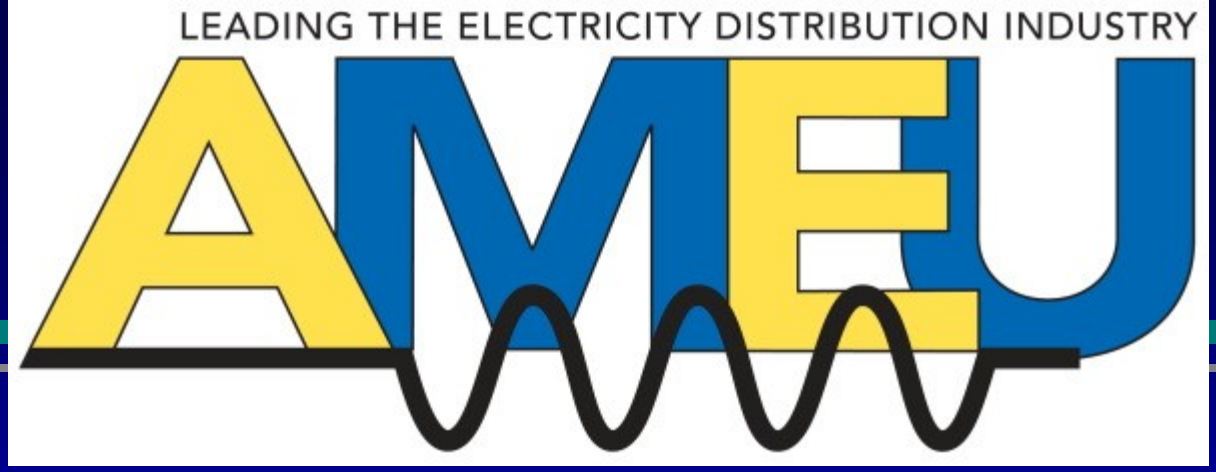


An Analysis of Municipal Tariff Determination

ELEXPERT (PTY) LTD

Maximise the value of your energy inputs.

Hendrik Barnard

CONTENTS

- Introduction.
- Analysis of price increases.
- Municipal impact.
- Large customer tariffs.
- Time of Use tariffs.
- Domestic tariffs and subsidies.
- Inclining block tariffs.
- Resellers.
- Conclusions.

INTRODUCTION

INTRODUCTION

- Late Eskom price increase 2008/2009.
- National Treasury guideline stipulating that municipalities should use an increase of 34%.
- No guidelines from NERSA to municipalities.
- Eskom price increase of 25% announced June 2009.
- 34% price increases by the majority of municipalities.
- 25% Eskom munic. increase 1010/11 April 2010.
- NERSA 19% increase if applied 34% the previous year.
- NERSA dictated inclining block rate tariff.

ESKOM PRICE INCREASES		
	Non-LG	**LG**
Increases in tariff rates		
I April 2008	14.20%	
1 July 2008	17.42%	35.90%
1 July 2009	33.60%	31.30%
1 April 2010	24.80%	
1 July 2010		28.90%
1 April 2011	25.80%	
1 July 2011		**29.90%**
1 April 2012	25.90%	
1 July 2012		**30.00%**

ESKOM PRICE INCREASE IMPACT				
	2009/10	**2010/11**	**2011/12**	**2012/13**
Eskom increase for LG.	31.30%	28.90%	29.90%	30.00%
Purchase cost % of total.	58%	59%	59%	60%
Other costs and profit.	42%	41%	41%	40%
Other cost increases.	10.00%	10.00%	10.00%	10.00%
Impact due to purchase cost increase.	18.15%	16.93%	17.69%	17.93%
Impact due to other cost increase.	4.20%	4.14%	4.08%	4.02%
Total increase required.	22.35%	21.07%	21.77%	21.95%
		Inital guideline		
Increase applied.	**34.00%**	15.33%	19.03%	16.16%
Over / (under) recovery.	11.65%	-5.74%	-2.74%	-5.79%
Cumm: Over / (under) recovery.	11.65%	5.90%	3.16%	-2.63%
		Later guideline.		
Increase applied.	**34.00%**	19.00%	19.76%	20.00%
Over / (under) recovery.	11.65%	-2.07%	-2.01%	-1.95%
Cumm: Over / (under) recovery.	11.65%	9.57%	7.56%	5.61%

INCREASES IMPACT: FOLLOW ESKOM

ESKOM PRICE INCREASE IMPACT:		All values in R mill)				
	2007/8	2008/9	2009/10	20010/11	20011/12	20012/13
Electricity revenue (zero growth)	(10.00)	(13.59)	(17.84)	(23.00)	(29.88)	(38.84)
Purchase cost (zero growth)	6.00	8.15	10.71	13.80	17.93	23.30
Other costs	*2.00*	*2.20*	*2.42*	*2.66*	*2.93*	*3.22*
Purchase cost % of revenue	*60.0%*	*60.0%*	*60.0%*	*60.0%*	*60.0%*	*60.0%*
Eskom average increase for munics		*35.9%*	*31.3%*	*28.9%*	*29.9%*	*30.0%*
Cost increase due to Eskom		21.5%	18.8%	17.3%	17.9%	18.0%
Electricity other costs % of rev		40.0%	40.0%	40.0%	40.0%	40.0%
Own cost inflation		10.0%	10.0%	10.0%	10.0%	10.0%
Cost increase due to own cost		4.0%	4.0%	4.0%	4.0%	4.0%
Total effective cost increase		25.5%	22.8%	21.3%	21.9%	22.0%
Cumm cost increase		25.5%	48.3%	69.7%	91.6%	113.6%
Actual increase applied		*35.9%*	*31.3%*	*28.9%*	*29.9%*	*30.0%*
Cummulative increase		35.9%	78.4%	130.0%	198.8%	288.4%

CUSTOMER IMPACT

ESKOM PRICE INCREASE IMPACT:		All values in R mill)				
	2007/8	2008/9	2009/10	20010/11	20011/12	20012/13
Surplus	2.00	3.24	4.72	6.54	9.02	12.32
Surplus % of revenue	20.0%	23.8%	26.4%	28.4%	30.2%	31.7%
% Surplus increase		61.8%	45.8%	38.6%	38.0%	36.5%
Municipal rates revenue	(9.00)	(9.90)	(10.89)	(11.98)	(13.18)	(14.49)
Surplus % of municipal rates revenue	*22%*	*33%*	*43%*	*55%*	*68%*	*85%*
TARIFF RESTRUCTURING						
Differential increase to poor .		-21%	-16%	-14%	-15%	-15%
Cumm. differential increase to the poor.		-20.9%	-33.8%	-43.0%	-51.5%	-58.8%
Differential increase to other customers.		3.5%	2.7%	2.3%	2.5%	2.5%
Cumm. Diff. increase to other customers.		3.5%	6.3%	8.8%	11.5%	14.2%
Price increase to the poor.		15%	15%	15%	15%	15%
Cummulative increase to the poor.		15.0%	32.3%	52.1%	74.9%	101.1%
Price increase to other customers.		39%	34%	31%	32%	33%
Cumm. increase to other customers.		39.4%	86.8%	145.1%	224.5%	329.9%
Cumm. additional increase to non-poor customers.		**13.8%**	**38.5%**	**75.4%**	**132.9%**	**216.3%**

ACTION REQUIRED:

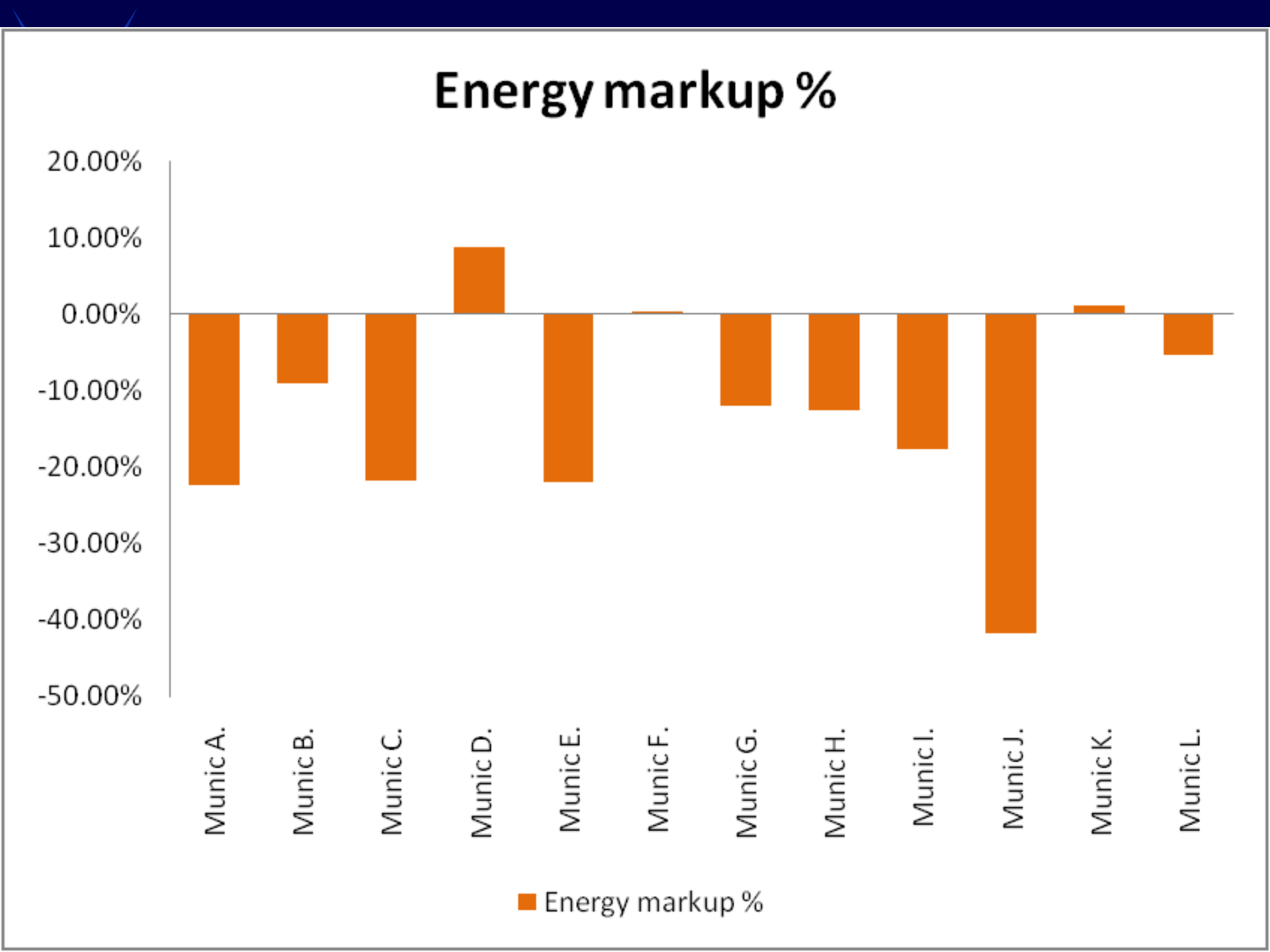
- Apply cost reflective increases to the various customer categories
- and that subsidies within the national guidelines. This includes stipulations made by NERSA.
- If not we may kill the goose that lays the golden egg.

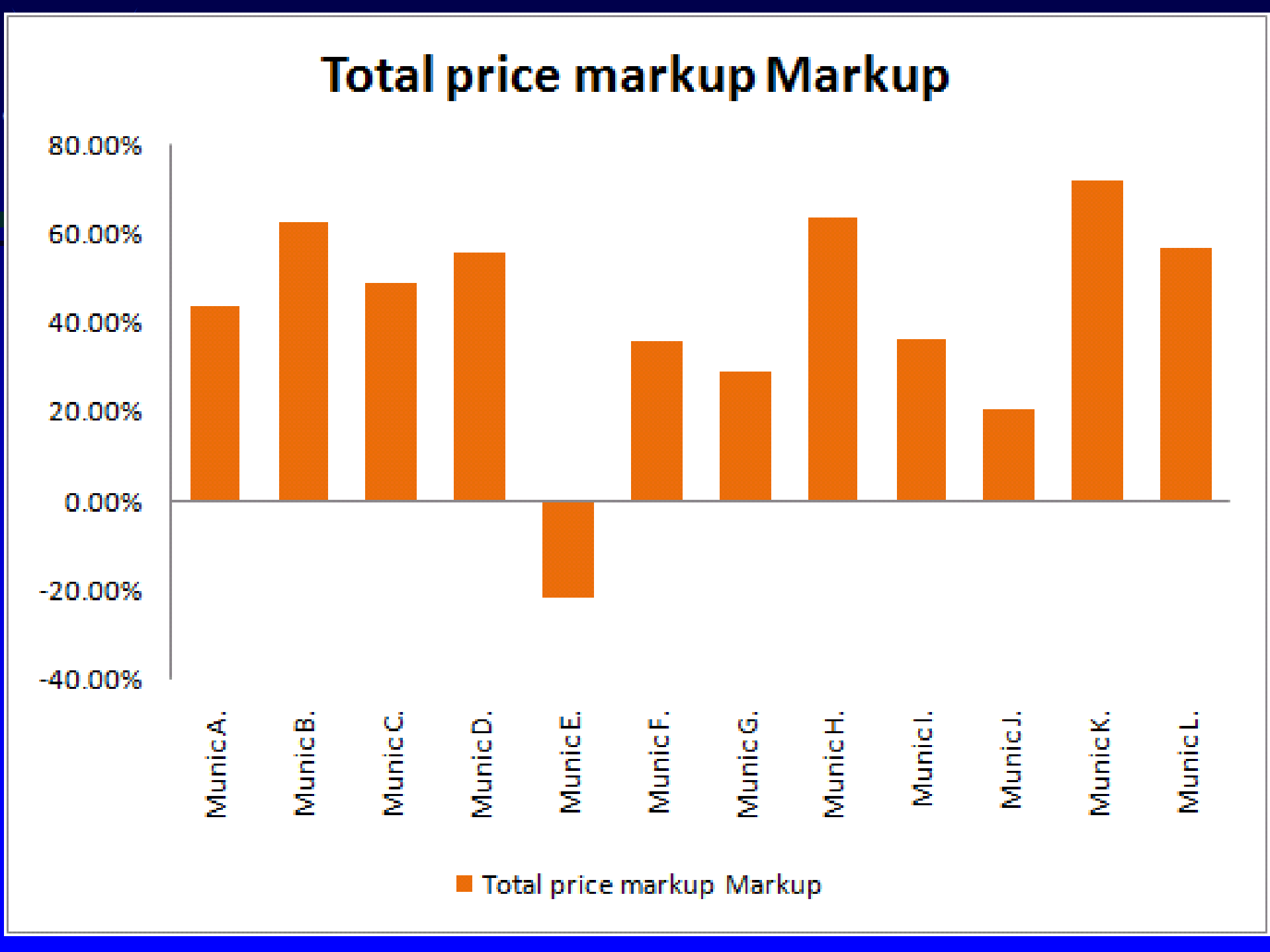
LARGE CUSTOMER TARIFFS

LARGE CUSTOMER TARIFFS

Due to high Eskom price increases:

- The energy cost component of the municipal tariff becomes a larger portion of the total tariff.
- This means that the costs for customers at higher voltages, would increase closer to the Eskom increases rather than the municipal tariff increases.


Energy markup %
20.00%
10.00%
0.00%
-10.00%
-20.00%
-30.00%
-40.00%
-50.00%
Munic A.
Munic B.
Munic C.
Munic D.
Munic E.
Munic F.
Munic G.
Munic H.
Munic I.
Munic J.
Munic K.
Munic L.
Energy markup %


Total price markup Markup
80.00%
60.00%
40.00%
20.00%
0.00%
-20.00%
-40.00%
Munic A.
Munic B.
Munic C.
Munic D.
Munic E.
Munic F.
Munic G.
Munic H.
Munic I.
Munic J.
Munic K.
Munic L.
Total price markup Markup

REQUIRED ACTION

- Cannot just apply average increase to all customer categories and all charges.
- Municipalities need to undertake some form of cost of supply analysis with a view of at least determining the **relationship between energy and other costs** and to restructure the tariffs accordingly. While the very high Eskom price increases are taking place, this should be done every year.

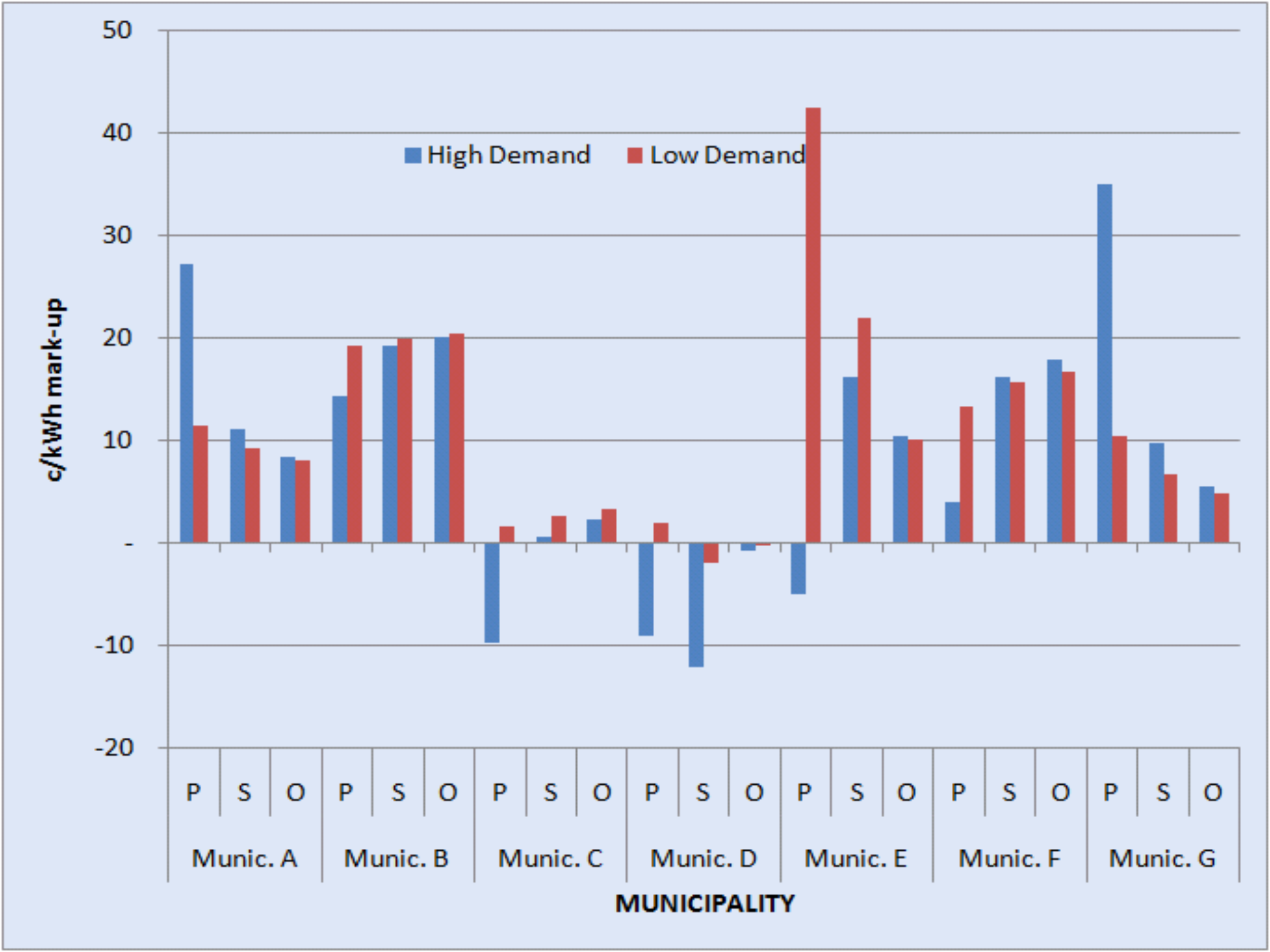
TIME
OF USE
TARIFFS

REASONS FOR TOU

- The first and main reason for the application of TOU tariffs is **to be more cost reflective**. Customers have very differing load profiles and thus different usage percentages in the different TOU periods.
- The second reason is **to enable load shifting**. There is a perception that customers must first prove that load shifting can be done, before being converted. Experience in South Africa and worldwide prove that customers start reacting when they receive the time differentiated price signals.

TIME OF USE TARIFFS

- Many municipalities don't have TOU tariffs.
- In many cases the TOU tariffs are more expensive.
- In many cases the process to convert to TOU is very complex.
- Tariff structures are contrary to the cost of supply and against underlying principles and consequences.
- Customers are not provided with the required meter and data support.
- In many cases the meters are not available.


50
40
30
20
10
-
-10
-20
c/kWh mark-up
High Demand
Low Demand
P
S
O
Munic. A
Munic. B
Munic. C
Munic. D
Munic. E
Munic. F
Munic. G
MUNICIPALITY

OBSERVATIONS ON TOU

- 14 municipalities analysed only 7 offered TOU tariffs to its large customers.
- less than 10% of the large customers on TOU.
- Some of the energy prices are less than that of Eskom in 3 municipalities.
- The c/kWh mark-up in the different TOU periods is very different.
- The TOU periods differ with that of Eskom in the case of one municipality.

TOU TARIFF STRUCTURE

- Largely Eskom Megaflex tariff structure.
- c/kWh mark-up must be the same in all periods.
- Ideally the mark-up on energy, the demand charges and fixed charges, should reflect the cost of supply as determined through COS studies.
- The rates need to be analysed and be set based on these principles every year and not by the application of an average increase on all the rates.

ACTION REQUIRED

- TOU tariffs should be rolled out as follows :
  - To all customers at MV by 1 July 2011.
  - To all customers > 250 kVA by 1 July 2012.
  - To all customers > 100 kVA by 1 July 2015.
- Compulsory for all customers in the category.
- Tariff be revenue neutral with other tariff for all customers in each category being converted.
- Thus no further analysis or surcharges is required.
- Don’t lose money when customers convert to TOU.

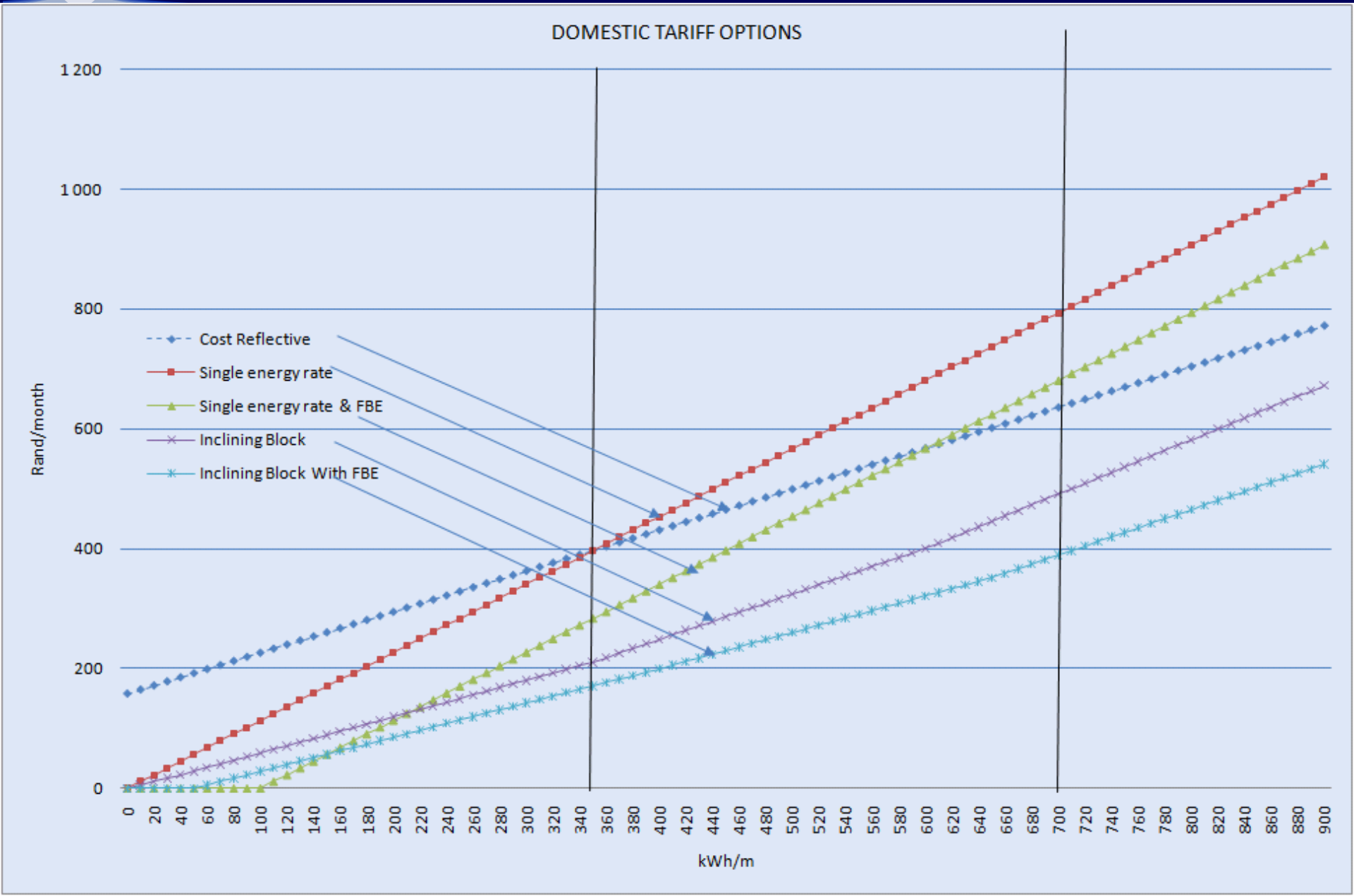
DOMESTIC TARIFFS

AND SUBSIDIES

BACKGROUND

- Impact of subsidies and cross-subsidies to poor electricity domestic customers is known.
- Main strategy applied: single energy rate tariff without any fixed or capacity charges. This provides significant subsidies to the low usage customers.
- The table below from the EPP shows the proposed breakeven between a cost reflective tariff and a single energy rate life line tariff.

EPP ON DOMESTIC TARIFFS



DOMESTIC TARIFFS BREAKEVEN	Standard Domestic			Life line	Break even
	Basic	Capacity 20 Amps	Energy	Energy	kWh/m
Munic A.	103.417	-	64.440	53.900	Never
Munic B.	87.360	-	64.290	55.070	Never
Munic C.	13.500	30.000	64.600	70.000	806
Munic D.	-	-	68.940	68.940	NA
Munic E.	-	-	61.344	49.233	Never
Munic F.	20.396	-	70.741	54.428	Never
Munic G.	180.760	45.800	80.520	53.070	> 5000
Munic H.	-	28.570	50.100	73.180	124
Munic I.	-	-	64.296	58.590	Never
Munic J.	-	79.680	34.623	63.780	273
Munic K.	-	-	74.200	71.760	Never
Munic L.	70.500	-	65.250	65.250	Never
AVERAGE	39.661	15.338	63.612	61.433	Never

CONCLUTIONS

- The breakeven points higher than prescribed in policy documents.
- Many of life line customers also receive (FBE) which increases the break even points even further.
- Extent of cross subsidisation of poor domestic customers, far exceed national government policy.
- Exaggerated by NERSA rulings: poor customers receive maximum price increases of 15%.

INCLINING BLOCK RATE

TARIFFS

INCLINING BLOCK RATE TARIFFS

- Despite the massive cross subsidies already provided to poor domestic customers, NERSA ruled that poor domestic customers should be provided with subsidies by way of an **inclining block rate tariff**. It goes on by not saying that the inclining block rate tariff be applicable to poor domestic customers only, but that that it should be the **only domestic tariffs** to be applied by Eskom and municipalities.
- .

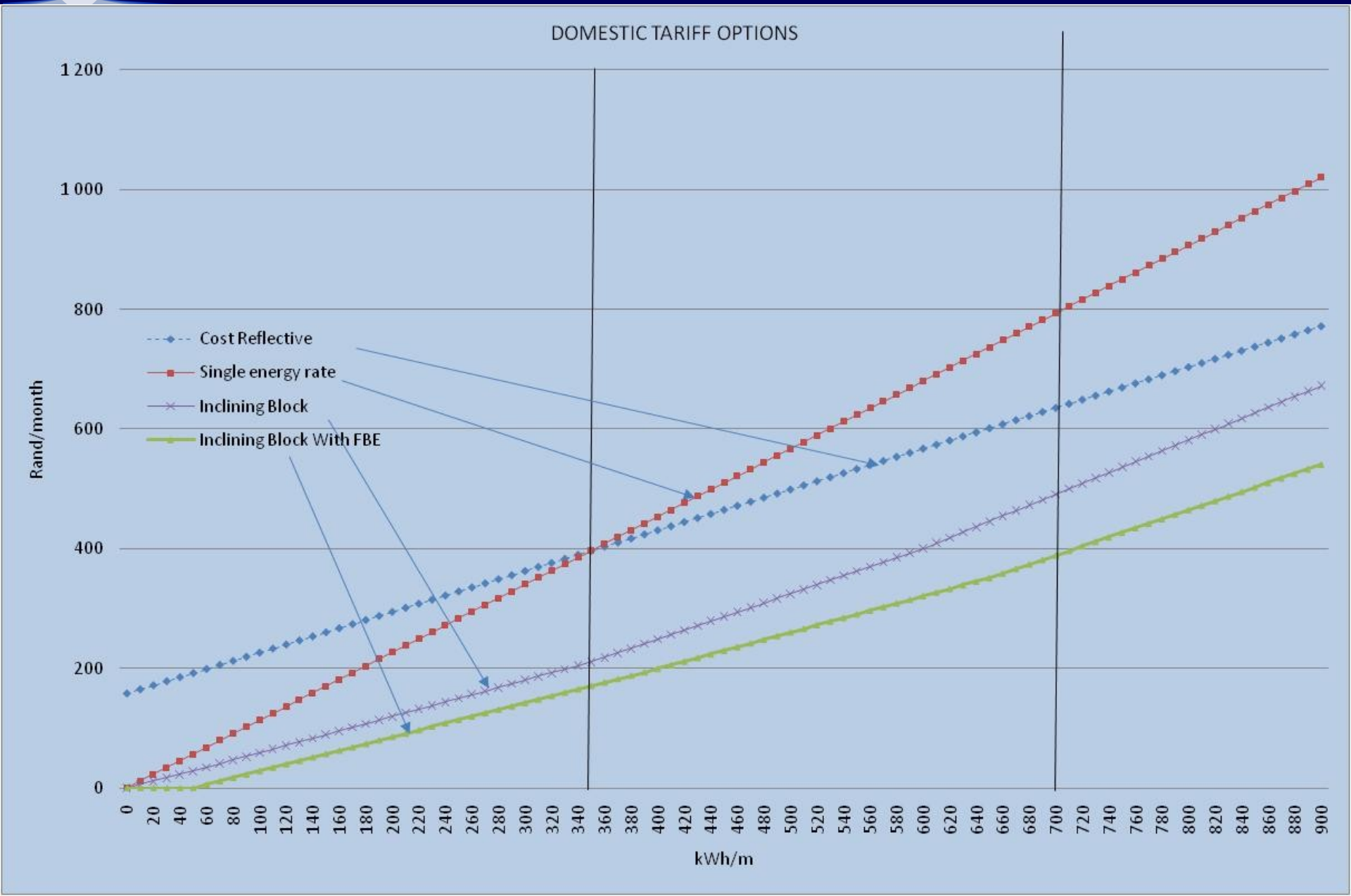
ESKOM REACTION

- Eskom did not seem to make any objection in this respect, but only applied it to the billed customers and not to pre-payment customers, due to vending problems.
- This impact plus that of low increase for rural, on non-domestic, non local Government customers was an additional increase of 4.6% in 2010/11.

SALGA REACTION

- Compliments to SALGA who did object to this ruling by NERSA.
- NERSA has been applying ongoing pressure on municipalities to apply these tariffs, despite an agreement with SALGA that it would not.
- Various municipalities did however apply inclining block rate tariffs to their domestic customers, in line with NERSA ruling.

ESKOM DOMESTIC TARIFFS



CONCLUSION

- Further increasing cross subsidies to the poor.
- Introduction of cross subsidies for large / wealthy domestic customers.
- Additional increases for some high usage domestic customers.

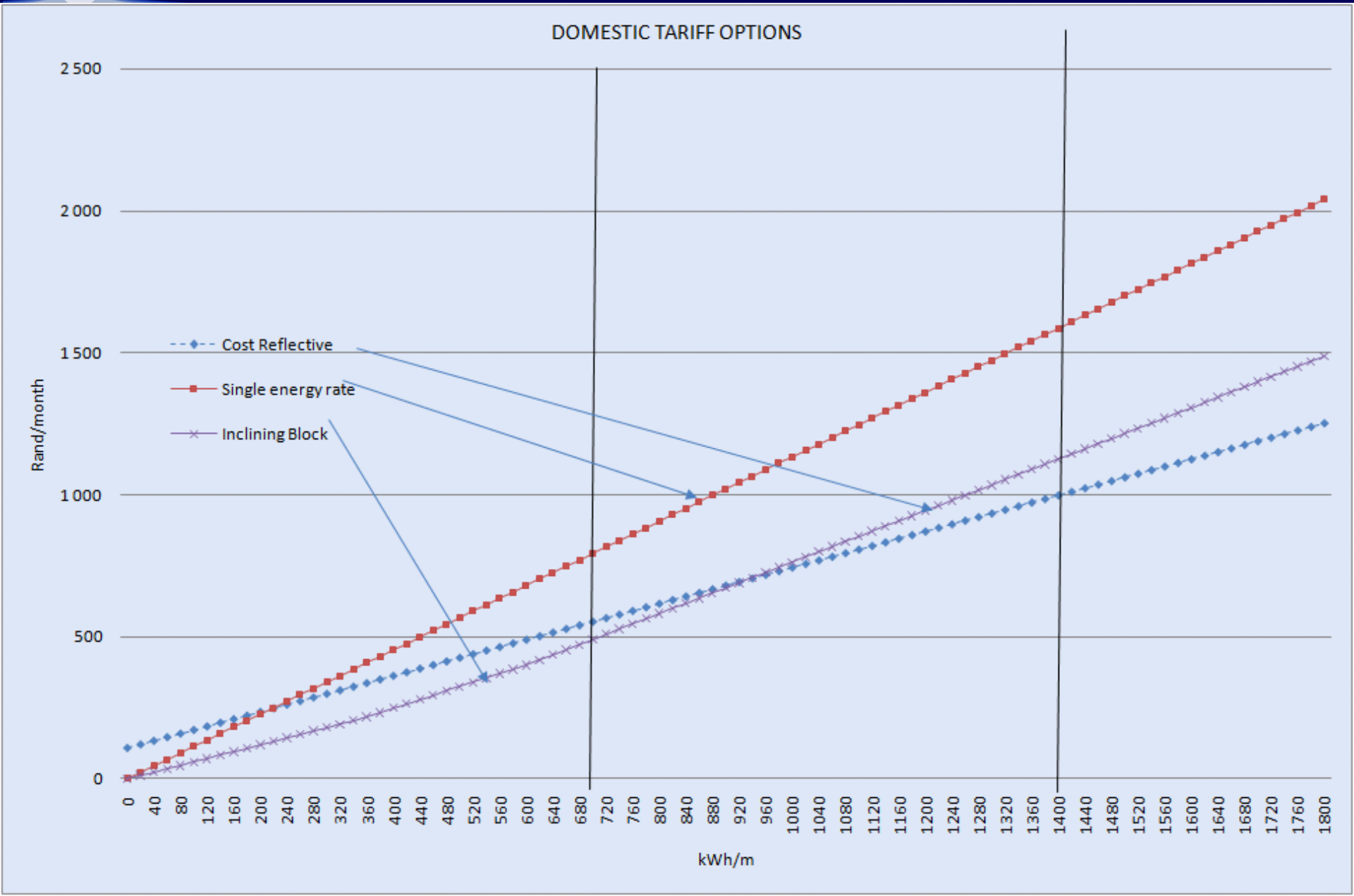
CONCLUSION

- Large negative impact with irregular / no usage.
- Unfair overcharge for multiple family / households.
- Introduction of unfair problematic practices in pre-payment customers.
- A change in need for smart meters, time of use tariffs and DSM measures for domestic customers.
- Massive negative financial impact associated with reduced consumption due to high price increases and roll out of energy efficiency measures.

ENERGY SAVINGS IMPACT

- Customer installs a solar water heater, some efficient lights and is generally more aware and saves 300 kWh/m on 1000 kWh/m, the savings:
- On the cost reflective tariff - 26%.
- On the IBR tariff - 33%.
- On cost as % of revenue - 16%.
- Energy efficiency strategies will increase pressure: loss in revenue exceed the savings in purchase and other costs significantly.

MUNICIPAL DOMESTIC TARIFFS



REQUIRED ACTION

- SALGA to undertake a detailed study on the proposed IBR tariffs in respect of:
  - Compliance with national government policy.
  - Extent to which it achieves national objectives.
  - The short terms and long term financial implications.
  - The practical implemental problems.
- SALGA can then call for a national workshop to debate and come up with a new policy.
- That NERSA be forced to reverse the unilateral decision.

ELECTRICITY

RESELLERS

RESELLERS

- 2 million domestic customers from resellers.
- Viable by mark-up made on electricity sales.
- Most municipalities stipulate that resellers may not charge more than they would have.
- Domestic increases to the poor limit to 15% and inclining block rate tariffs is threat for resellers.
- Eskom & munics, the revenue lost, are recovered from other customers. Resellers do not have that option.

SOLUTION

- Apply approved energy policy but for latest NERSA rulings:
- Electricity tariffs must be based on cost of supply.
- Subsidies should be measured and be transparent.
- Subsidies should be targeted at the poor.
- Specific transparent cross-subsidies to be applied consistently within a municipal boundary. The municipality, to distribute electricity cross-subsidies, to all residents in its area of jurisdiction.

RESELLERS ACTIONS IF TREND CONTINUES

- Applying tariffs that are higher than that applied by the municipality / Eskom.
- Become licensed distributors of electricity in which they can apply their own set of tariffs.
- Resellers to take municipalities to court to subsidise the difference between the cost of the resellers and the IBR tariff of the municipality.
- Resellers go out of business: municipalities pick up the additional subsidies involved.

SOLUTION

- Apply the good policies that have been developed over the past years:
- Eskom and municipalities apply cost reflective tariffs.
- Specific provisions be made for the poor within the EPP and other policies.
- Municipalities need to channel such funds to the poor people qualifying for the specific provisions that are supplied by resellers.

CONCLUSION

CONCLUSION

- Electricity pricing and policy formulation requires very serious changes.

An Analysis of Municipal Tariff Determination

THANK YOU !

ANY QUESTIONS